DOCUMENT RESUME

ED 119 441 EC 081 693

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TITLE	Language Development-Perceptual Motor Training Program.
INSTITUTION	Muskegon Regional Mental Retardation Center, Mich.
SPONS AGENCY	Bureau of Elementary and Secondary Education (DHEW/OE), Washington, D.C.
PUB DATE	73
NOTE	177p.
AVAILABLE FROM	Information and Research Utilization Center, 1201 16th Street, N.W., Washington, D.C. ($10.95 xerox copy)
EDRS PRICE	MF-$0.83 Plus Postage. HC Not Available from EDRS.
DESCRIPTORS	*Custodial Mentally Handicapped; Exceptional Child Education; Instructional Materials; *Language Development; Mentally Handicapped; Motor Development; *Perceptual Motor Coordination; *Program Descriptions; Reinforcement; Verbal Communication; Vocabulary Development

ABSTRACT

Provided is the step-by-step curriculum of the Language Development-Perceptual Motor Training Program designed to improve the functioning level of each child and to provide staff with methods for dealing with severely retarded children on the level of the children's communicative abilities. Program areas, which are color-coded for the user's convenience, include reinforcement, motor imitation, receptive vocabulary, conceptual receptive vocabulary, and verbal imitation. Each program area consists of a series of developmental steps; and each step includes explanations of tasks to be completed, procedure, reinforcers, materials needed, and suggested place for the activity. A final section lists and illustrates sensorimotor training materials. Authors suggest that this program would be feasible for use by parents and teachers of severely mentally retarded children outside the institutional setting. (Author/SB)

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ED119441

LANGUAGE DEVELOPMENT-PERCEPTUAL MOTOR TRAINING PROGRAM

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
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PREFACE

This is the second printing of the Language Development-Perceptual Motor Training Booklet and it contains some additions. Among these are sections dealing with advanced motor imitation, concept development, and early verbal imitation. Further, the early portion of the Program has been expanded to include teaching strategies for important self-help skills. These strategies are incorporated with the other methods for teaching receptive vocabulary.

The Program at the Muskegon Regional Mental Retardation Center is entering its second full year of operation. The first year has provided the information necessary to develop the additional program steps included in this revision of the booklet. The first year has also served to reinforce the belief that a systematic approach to development of early language skills can be successfully employed, and that severely and profoundly retarded children can be worked with. To this end we dedicate the next year.

As an aid to using this book, the program areas have been color-coded. They are as follows:

Introduction	White
Reinforcement	Green
Motor Imitation	Salmon
Receptive Vocabulary	Yellow
Conceptual Receptive Vocabulary	Pink
Verbal Imitation	Blue
Supplementary Sections (Sensori-motor training materials, bibliography, etc.)	White

The Language Development-Perceptual Motor Training Program of the Muskegon Regional Mental Retardation Center has two major goals. The first of these is to improve the overall functioning level of the individual child, by aiming to systematically approach the teaching of skills necessary for each individual to realize his maximum potential. The other major goal of the Program is to provide the attendant staff personnel with methods for dealing with severely retarded children on a level more commensurate with their communicative abilities. The vehicle for approaching these ideals is the step-by-step curriculum provided in subsequent sections of this booklet. This curriculum follows an operational lattice based on tenants of developmental psychology and speech and language development. An early version of this lattice was developed by William A. Bricker (George Peabody College for Teachers, Nashville, Tennessee), and has been modified for our functional application as a result of ongoing programming over the past 18 months. The day-to-day activities are carried out within the framework of a behavior modification program with provisions for the ongoing analysis of behavior.

The program was written and is carried out by the Center's Language Development Task Force. This group is composed of members of the Center's Psychology, Speech and Hearing, and Adjunctive Therapy Departments. In addition, there are two full-time language trainers assigned to the Task Force. These two language trainers and the Center's speech pathologist are funded through Title I funds. Their primary responsibility is the day-to-day implementation of the Program. In addition, with the other members of the Task Force, they are responsible for the continued evaluation and expansion of the Program. These duties include: data collection and evaluation, inservice training for staff and volunteers, research and development of program content and development and implementation of ongoing prescriptive approaches for dealing with individual children.

The completed portion of this curriculum booklet begins with the tools of learning; the determination of what motivates the child, and then directing that motivation through a series of operants based upon perceptual application. Utilizing reinforcement procedures, activities are divided into longitudinal programs that sequence from attending behaviors to motor imitation tasks, progressing through a receptive vocabulary, speech sound imitation, verbal expression, and, ultimately, through syntax development. Important developmental skill areas such as self-dressing, self-feeding and toilet training have been included in this revised Program booklet. Also integrated within the Program are specific steps to increase perceptual motor skills. A child may begin at any program level, depending upon his skills or other behaviors. His participation from the level of initiation should follow each successive sequence, and each longitudinal step may be considered a possible terminal point with relative success measured to that point.

As mentioned, a second goal of the Program is to provide the attendant staff with methods for training severely retarded children. The design is to incorporate unit personnel as part of the instructional staff for a number of very practical reasons. Most significant is the aid that the unit staff might contribute to the generalization of the structured learning to activities of daily living. It is this "carry over" step that will ultimately determine success. Therefore, unit personnel and their total involvement with the child become vital parts of the language development. This philosophy is carried to the point that each explicit directive of each developmental step in the curriculum is intended to maintain consistency in the successive approximations presented in each session. Meanwhile, the instructional staff, composed of Task Force personnel and available unit staff, remains fluid.

For parents and teachers of children outside the institutional setting, the principles of consistency and "carry over" are similar. Application of this kind of system in community day training programs for the severely retarded would appear feasible (and, in fact, Muskegon is currently doing that with great success!).

PROGRAM FUNDING

The program is funded by Title I monies, State Project 705-P2.

PROGRAM POPULATION

The current participants in language acquisition programming at MRMRC may generally be classified as severely retarded youngsters with supplementary descriptions as follows:

1. Intellectual Development

   Mental age range from 5 months through 26 months, with a great majority falling in the 12 to 18 month range. IQ's in the 5 to 25 range. Fine motor skills and perceptual motor skills generally at a subtrainable level.

2. Motor Development

   Developmental ages between 12 months and 36 months, with most falling in the 20 to 25 month range. Several of the subjects have significant debilitating physical deficiencies and various degrees of palsy.

3. Self-Help Skills

   The range in this area is from complete dependence on the part of some to near independence level with others, with a great majority needing significant help in self-care.

4. Instructional Control (prerequisite to further development in any area)

   Most of these children, as of baseline evaluation period, are

> out of control for instructional purposes, exhibiting hyperactivity, wandering eyes, complete withdrawal, or any number of incompatible behaviors such as hand flapping, head banging, screaming, etc.

The prognosis for development of these subjects without consideration of intervention is that most will experience a decelerating quotient curve in all areas; i.e., their behavior repertoire will plateau in spite of physical maturation. Example: Jimmy, chronological age 5, mental age 2 1/2, IQ 50. Five years later Jimmy, at a chronological age of 10 years, has an MA of 2 1/2 and an IQ of 35.

The attached lattice represents the range of developmental steps for the Language Development Program. It has been our purpose to write the steps sequencing from Reinforcement Program to Verbal Imitation for the severely retarded. Longitudinal steps are initiated and appropriate tasks carried out via program advancements until the terminal behavior is established.

The Muskegon Regional Mental Retardation Center's Language Program has continued to serve 58 youngsters daily for the past year. The program will be expanded to include an additional 50 youngsters shortly. In addition, the curriculum is being employed with 48 youngsters in the Day Training Program of the Muskegon Area Intermediate School District.

PROGRAM PERSONNEL: Clinical

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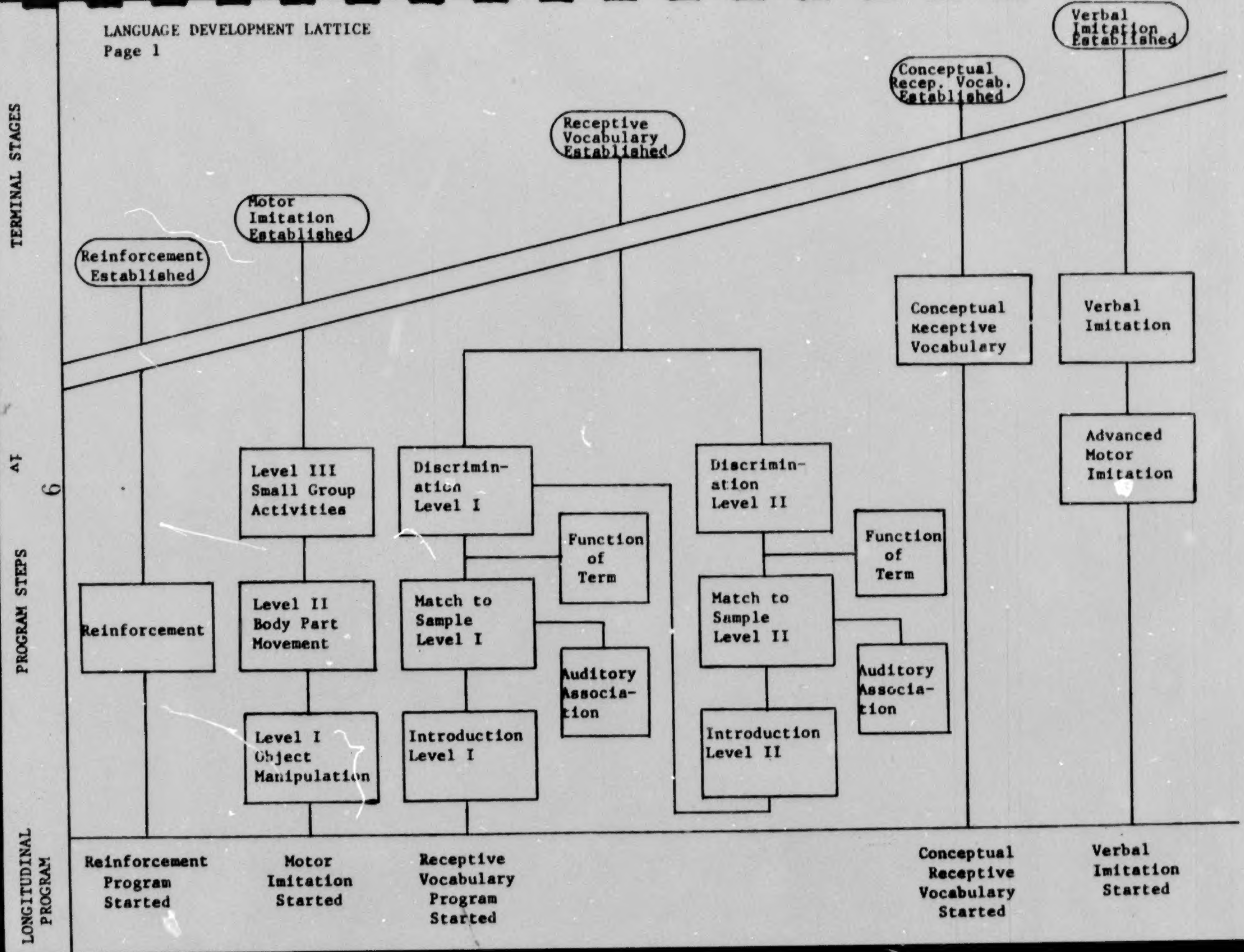
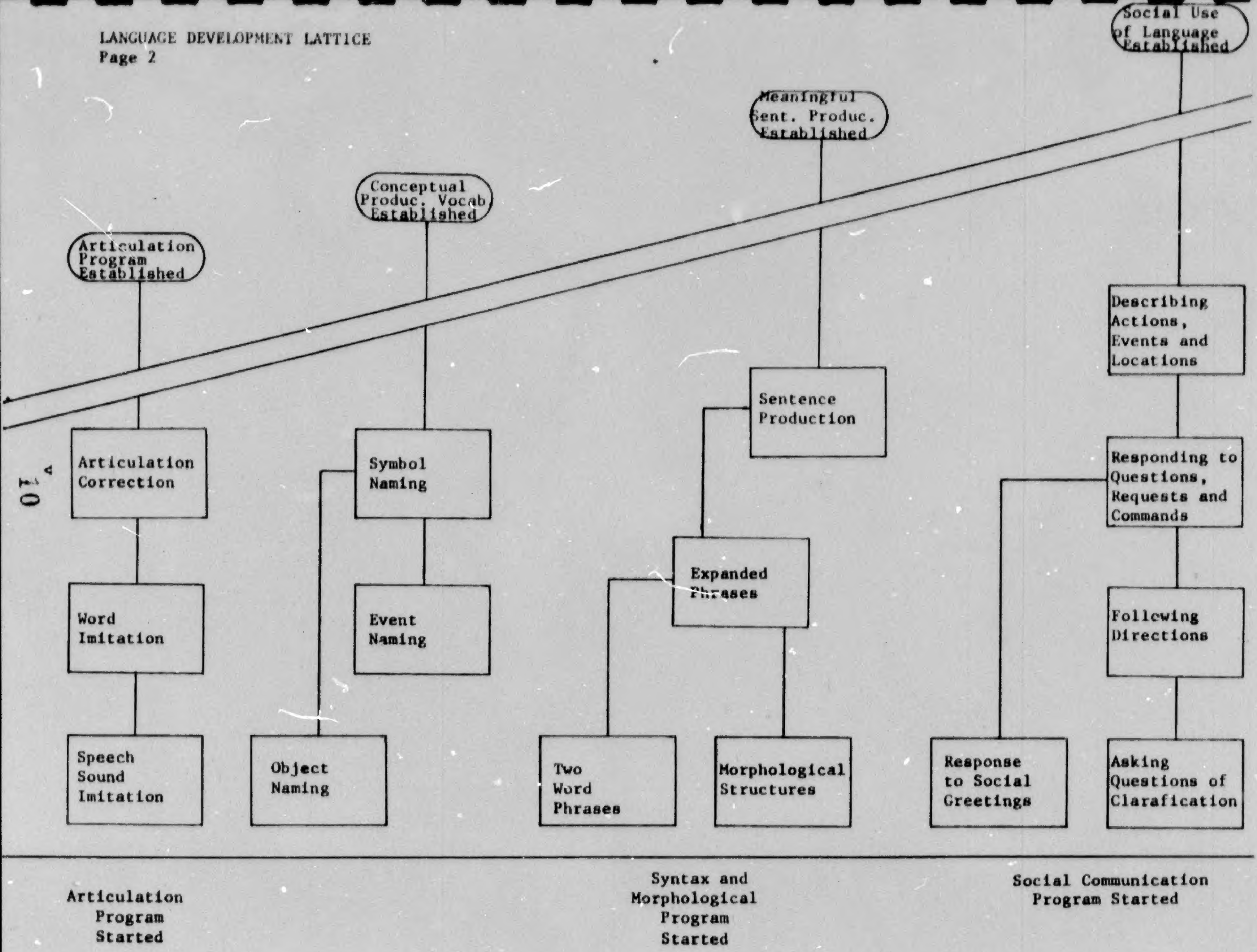
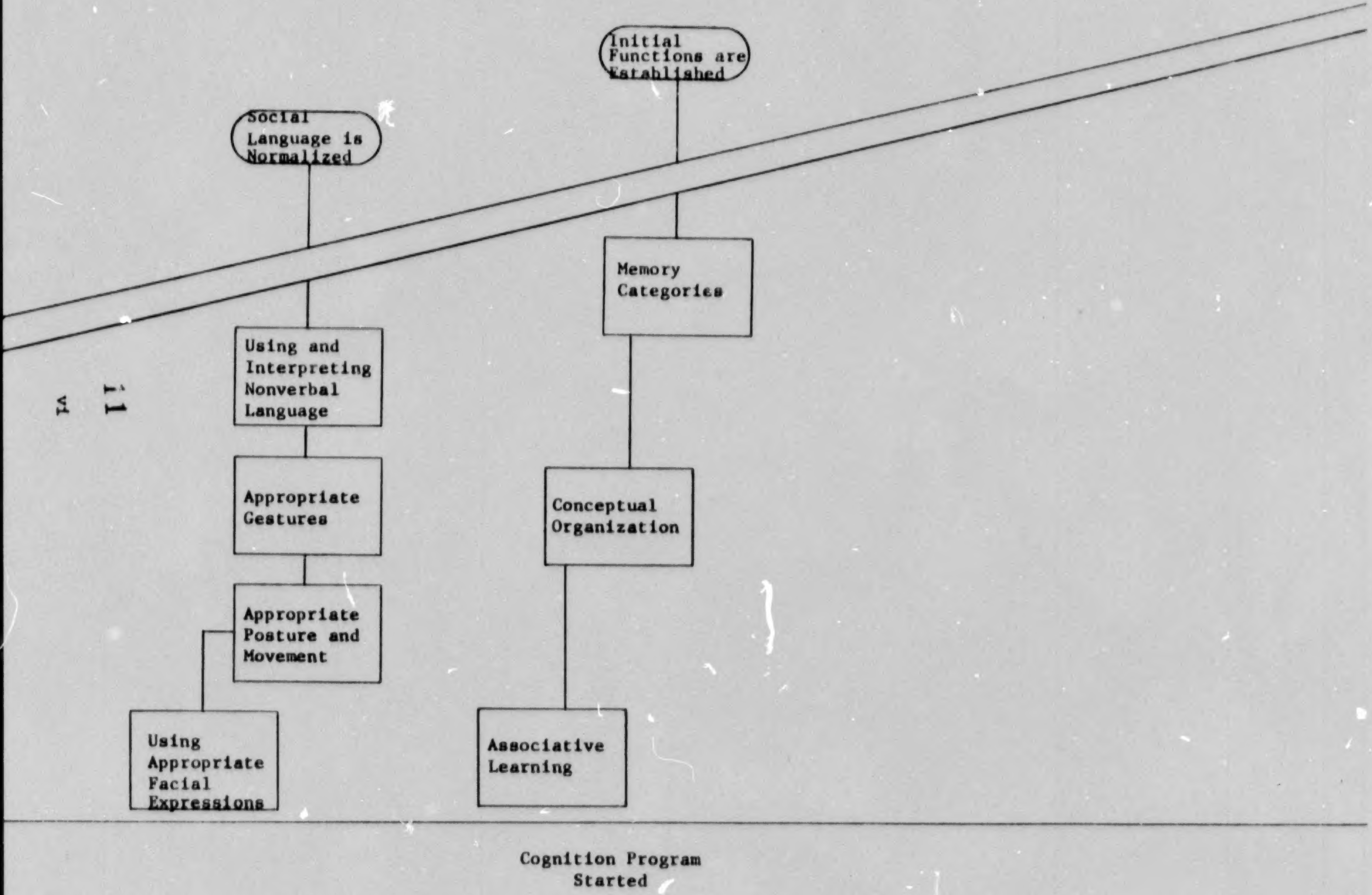
LANGUAGE DEVELOPMENT LATTICE
Page 1


TERMINAL STAGES
PROGRAM STEPS
LONGITUDINAL PROGRAM
Reinforcement Established
Motor Imitation Established
Receptive Vocabulary Established
Conceptual Recep. Vocab. Established
Verbal Imitation Established
Reinforcement
Level III Small Group Activities
Level II Body Part Movement
Level I Object Manipulation
Discrimination Level I
Function of Term
Match to Sample Level I
Auditory Association
Introduction Level I
Discrimination Level II
Function of Term
Match to Sample Level II
Auditory Association
Introduction Level II
Conceptual Receptive Vocabulary
Verbal Imitation
Advanced Motor Imitation
Reinforcement Program Started
Motor Imitation Started
Receptive Vocabulary Program Started
Conceptual Receptive Vocabulary Started
Verbal Imitation Started

LANGUAGE DEVELOPMENT LATTICE
Page 2


Articulation Program Established
Conceptual Produc. Vocab Established
Meaningful Sent. Produc. Established
Social Use of Language Established
Articulation Correction
Word Imitation
Speech Sound Imitation
Symbol Naming
Event Naming
Object Naming
Sentence Production
Expanded Phrases
Two Word Phrases
Morphological Structures
Describing Actions, Events and Locations
Responding to Questions, Requests and Commands
Following Directions
Asking Questions of Clarafication
Response to Social Greetings
Articulation Program Started
Syntax and Morphological Program Started
Social Communication Program Started


Initial Functions are Established
Social Language is Normalized
Memory Categories
Using and Interpreting Nonverbal Language
Conceptual Organization
Appropriate Gestures
Appropriate Posture and Movement
Using Appropriate Facial Expressions
Associative Learning
Cognition Program Started

REINFORCEMENT PROGRAM

The Reinforcement Program is the first in the Language Development-Perceptual Motor Training Program. In it there are several goals:

1. Establishment of behavioral control (determining reinforcers and schedules of delivery).
2. Conditioning of children to assume posture conducive to further programming.
3. Introduction for staff members or parents to operant techniques and procedures.
4. Introduce child to the overall structure.

There are not stringent criteria for this section in general since these postural considerations and simple responses are present throughout the remaining programs. However, it is strongly suggested that a child be kept in this area until the trainer is convinced he has control via the reinforcers. In addition, if in future programs the child begins to lose some of the conditioned postural and attending behaviors, this program may be returned to as needed.

REINFORCEMENT PROGRAM

Developmental Step #1

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Table, chairs, apron for tangible reinforcer

Place:

Unit Classroom

Task:

Sitting with feet on floor

Procedure:

1. Insure that chairs are of proper height.
2. Child is seated behind curved table.
3. Child remains facing forward.
4. Feet are to remain on the floor for 5 second periods.
5. Tangible and verbal reinforcers are administered at end of each 5 second interval.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to child after a short time.

REINFORCEMENT PROGRAM

Developmental Step #2

Reinforcers:

Tangibles -- M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Table, chairs, apron for tangible reinforcer

Place:

Unit Classroom

Task:

Sitting with hands on the table and feet on the floor

Procedure:

1. Insure that chairs are of the proper height.
2. Child is seated behind curved table.
3. Child remains facing forward.
4. Feet are to remain on the floor for 5 seconds.
5. Tangible and verbal reinforcers are administered at end of 5 second intervals.
6. If repeated at another date for review, reinforcement intervals may be increased (from 5 seconds --------).

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to child after a short time.

REINFORCEMENT PROGRAM

Developmental Step #3

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Table, chairs, apron for tangible reinforcer

Place:

Unit Classroom

Task:

Eye contact: Object is to have child sit in appropriate position and upon command look at the trainer (to 5 seconds)

Procedure:

1. Insure that chairs are of proper height.
2. Child is seated behind curved table.
3. Child remains facing forward.
4. Feet are to remain on floor and child is to look at the trainer (to 5 seconds) upon command.
5. Tangible and verbal reinforcers are administered at end of 5 second intervals.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to child after a short time.

REINFORCEMENT PROGRAM

Developmental Step #4

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Table, chairs, apron for tangible reinforcer

Place:

Unit Classroom

Task:

Standing behind chair with hands on back of chair

Procedure:

1. Insure that chairs are of proper height
2. Child is standing behind chair.
3. Child remains facing forward.
4. Child's hands should be on back of chair.
5. Child is to stand with hands on back of chair for 15 second intervals.
6. Tangible and verbal reinforcers are administered at end of 15 second intervals.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to child after a short time.

REINFORCEMENT PROGRAM

Developmental Step #5

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Table, chairs, apron for tangible reinforcer, object to place on table

Place:

Unit Classroom

Task:

Sitting with feet on floor and hands on table with object before child on table.

Procedure:

1. Insure that chairs are proper height.
2. Resident is seated behind curved table.
3. Resident remains facing forward.
4. Feet remain on floor and hands on table with object before child for 15 second intervals.
5. Tangible and verbal reinforcers are administered at end of each 15 second interval.
6. If repeated for review, reinforcement interval may be increased (15 seconds and upward).

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to child after a short time.

MOTOR IMITATION

The purpose of this section is to assess and teach various gross and fine motor movements. It is hoped these activities will not only increase the child's perceptual motor skills, but also serve as an introduction to small group play activities. In addition, it is hoped these activities will serve to heighten the "imitative awareness" needed for subsequent speech sound imitation areas.

The motor imitation program steps are divided into three levels (Levels I, II and III). This division will allow for periodic evaluation as well as provide a breakdown by degree of difficulty. While quite a few program steps currently exist in the motor imitation program, this list is always subject to expansion.

Instructions for Motor Imitation Assessment

Each of the two pretraining items is to be trained to a criterion of five consecutive correct responses prior to level one assessment. During pretraining, reinforcers for the child should be isolated for use in the actual assessment. When the child has met criterion on both pretraining items, administer the Level One Motor Imitation Project.

Pretraining: Definitions of Appropriate Behaviors

1. Drop block into cup: Child is to pick up block and release it into cup from a height of two inches or more above top of cup.

2. Pull toy: Child is to grasp pull string and pull toy across a surface a distance of at least a foot.

LANGUAGE DEVELOPMENT - PERCEPTUAL MOTOR TRAINING PROGRAM

Pretest - Posttest Motor Imitation Level One

Name ____________ No. Correct ____________ Date ____________

Name of Recorder ____________ No. Incorrect ____________ % Reliability ______

Behavior	Appropriate	Inappropriate	No Response
1. Piece in puzzle			
2. Stir w/spoon			
3. Put on hat			
4. Ring bell			
5. Roll ball			
6. Glass in glass			
7. Beat drum			
8. Stack blocks			
9. Squeak toy			
10. Buzz board			
11. Ring bell			
12. beat drum			
13. Stack blocks			
14. Buzz board			
15. Roll ball			
16. Glass in glass			
17. Squeak toy			
18. Stir w/spoon			
19. Piece in puzzle			
20. Put on hat			
21. Beat drum			
22. Stack blocks			

Behavior	Appropriate	Inappropriate	No Response
23. Squeak toy			
24. Buzz board			
25. Piece in puzzle			
26. Roll ball			
27. Ring bell			
28. Glass in glass			
29. Put on hat			
30. Stir w/spoon			

MRMRC

Language Development - Perceptual Motor Training Program

Correct Response Totals

Level I

Task	No. of Correct Responses
1. Piece in puzzle	
2. Stir w/spoon	
3. Put on hat	
4. Ring bell	
5. Roll ball	
6. Glass in glass	
7. Beat drum	
8. Stack barrels	
9. Squeak toy	
10. Buzz board	

Note: Criteria for Success is achieved when two of three responses are correct.

MOTOR IMITATION

(Level One)

Developmental Step #1

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - Good boy (girl), (name of child)."

Materials:

Table, chairs, bell

Place:

Unit Classroom

Task:

Ring bell: Child is to pick up bell from table and shake so sound is produced; this following demonstration of trainer.

Procedure:

1. Trainer demonstrates ringing bell using phrase, "Look at me" and then, "You do it, ring the bell."
2. Child is to imitate ringing of the bell. Physical prompts may be used initially--to fade out appropriately.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to the child after a short time.

MOTOR IMITATION

(Level One)

Developmental Step #2

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - Good boy (girl), (Name of child)."

Materials:

Table, chairs, drum, drumstick

Place:

Unit Classroom

Task:

Beat drum: Child is to hold drumstick in hand and strike the upper surface of the drum so sound is produced ; this following demonstration of trainer.

Procedure:

1. Trainer demonstrates beating drum using phrase, "Look at me" and then, "You do it, beat the drum."
2. Child is to imitate beating of the drum. Physical prompts may be used initially--to fade appropriately.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to the child after a short time.

MOTOR IMITATION

(Level One)

Developmental Step #3

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise -"Good boy (girl), (name of child)."

Materials:

Table, chairs, squeak toy

Place:

Unit Classroom

Task:

Squeak toy: Child is to apply pressure to toy with hand, so a squeaking sound is produced: this following demonstration by trainer.

Procedure:

1. Trainer demonstrates squeaking the toy using phrase, "Look at me" and then, "You do it, squeak the toy."
2. Child is to imitate squeaking the toy. Physical prompts may be used initially--to fade appropriately.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to the child after a short time.

MOTOR IMITATION

(Level One)

Developmental Step #4

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Table, chairs, blocks

Place:

Unit Classroom

Task:

Stack blocks: Child is to pick up one block and place it on top of another, then release, leaving upper block setting on top of lower one; this following demonstration of trainer.

Procedure:

1. Trainer demonstrates stacking the blocks using phrase, "Look at me" and then, "You do it, stack the blocks."
2. Child is to imitate stacking the blocks. Physical prompts may be used initially--to fade appropriately.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to child after a short time.

MOTOR IMITATION

(Level One)

Developmental Step #5

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Table, chairs, buzzer board

Place:

Unit Classroom

Task:

Buzz board: Child is to strike surface of board with palm of flattened hand on metal "buzzers" so the buzz sound is produced; this following demonstration of trainer.

Procedure:

1. Trainer demonstrates buzzing the board using phrase, "Look at me" and then, "You do it, buzz the board."
2. Child is to imitate buzzing the board. Physical prompts may be used initially—to fade appropriately.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to child after a short time.

MOTOR IMITATION

(Level One)

Developmental Step #6

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Ball

Place:

Unit Classroom

Task:

Roll Ball: Child is to roll ball across surface in such a manner that the ball maintains contact with the surface while traveling a distance of at least a foot; this following demonstration of trainer.

Procedure:

1. Trainer demonstrates rolling the ball using phrase, "Look at me" then, "You do it, roll the ball."
2. Child is to imitate rolling the ball. Physical prompts may be used initially--to fade appropriately.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to child after a short time.

MOTOR IMITATION

(Level One)

Developmental Step #7

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Table, chairs, graduated glasses (2)

Place:

Unit Classroom

Task:

Glass in glass: Child is to pick up smaller of two graduated glasses and insert it, right side up, into the larger glass; this following demonstration by trainer.

Procedure:

1. Trainer demonstrates placing the smaller glass in the larger glass using phrase, "Look at me" and then, "You do it, put the little glass in the big glass."
2. Child is to imitate placing the little glass in the big glass. Physical prompts may be used initially--to fade appropriately.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to child after a short time.

MOTOR IMITATION

(Level One)

Developmental Step #8

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Table, chairs, hat

Place:

Unit Classroom

Task:

Put on hat: Child is to pick hat up off table and place it on top of his head: this following demonstration of trainer.

Procedure:

1. Trainer demonstrates putting on hat using phrase, "Look at me" and then, "You do it, put the hat on."
2. Child is to imitate putting on the hat. Physical prompts may be used initially--to fade appropriately.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to child after a short time.

MOTOR IMITATION

(Level One)

Developmental Step #9

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Table, chairs, bowl, spoon

Place:

Unit Classroom

Task:

Stir with spoon: Child is to pick up spoon by the handle from the table and move it around inside the bowl: this following demonstration of trainer.

Procedure:

1. Trainer demonstrates stirring sppon in bowl using phrase, "Look at me" and then, "You do it, stir the spoon in the bowl."
2. Child is to imitate stirring spoon in bowl. Physical prompts may be used initially--to fade appropriately.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to child after a short time.

MOTOR IMITATION

(Level One)

Developmental Step #10

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - Good boy (girl), (name of child)."

Materials:

Table, chairs, simple puzzle (graduated from one piece on up)

Place:

Unit Classroom

Task:

Place puzzle piece in appropriate slot: Child is to pick up puzzle piece from table and place it in the appropriate slot; this following demonstration of trainer.

Procedure:

1. Trainer demonstrates placing puzzle piece in slot using phrase, "Look at me" and then, "You do it, put the puzzle together."
2. Child is to imitate putting puzzle piece in appropriate slot. Physical prompts may be used initially--to fade appropriately.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to child after a short time.

MOTOR IMITATION

Level II

The items in Level II deal with the child's own body; the identification and movement of parts. The primary goal is the imitation of the motor movement. It is hoped a secondary gain will be in the retention of the terms hands, feet, eyes, etc; for this reason, the trainer is encouraged to continually use appropriate descriptive terms and to reinforce consistently for success.

MRMRC

LANGUAGE DEVELOPMENT - PERCEPTUAL MOTOR TRAINING PROGRAM

Pretest - Postest Motor Imitation Level Two

Name ______________ No. Correct ______________ Date ______________

Name of Recorder ______________ No. Incorrect ______________ % Reliability ______

Behavior	Appropriate	Inappropriate	No Response
1. Hands up			
2. Clapping hands			
3. Point to nose			
4. Point to ear			
5. Point to leg			
6. Rub tummy			
7. Wiggle fingers			
8. Pat knees			
9. Point to mouth			
10. Blow feather			
11. Hands out			
12. Hands on head			
13. Point to eyes			
14. Point to arm			
15. Arms waving			
16. Raise foot			
17. Open mouth			
18. Finger on feet			
19. Tongue out			
20. Scribble			

Behavior	Appropriate	Inappropriate	No Response
21. Hands up			
22. Hands on head			
23. Point to arm			
24. Raise foot			
25. Scribble			
26. Finger on feet			
27. Point to nose			
28. Rub tummy			
29. Point to mouth			
30. Clapping hands			
31. Arms waving			
32. Tongue out			
33. Point to ear			
34. Pat knees			
35. Open mouth			
36. Point to eyes			
37. Blow feather			
38. Hands out			
39. Point to leg			
40. Wiggle fingers			
41. Scribble			
42. Blow feather			
43. Tongue out			
44. Point to mouth			
45. Finger on feet			
46. Pat knees			

Behavior	Appropriate	Inappropriate	No Response
47. Open mouth			
48. Wiggle fingers			
49. Raise foot			
50. Rub tummy			
51. Arms waving			
52. Point to leg			
53. Point to arm			
54. Point to ear			
55. Point to eyes			
56. Point to nose			
57. Hands on head			
58. Clapping hands			
59. Hands out			
60. Hands up			

MRMRC

Language Development - Perceptual Motor Training Program

Correct Response Totals

Level II

Task	No. of Correct Responses
1. Hands up	
2. Hands out	
3. Clapping hands	
4. Hands on head	
5. Point to nose	
6. Points to eyes	
7. Point to ear	
8. Point to arm	
9. Point to leg	
10. Arms waving	
11. Rub tummy	
12. Raise foot	
13. Wiggle fingers	
14. Open mouth	
15. Pat knees	
16. Finger on feet	
17. Point to mouth	
18. Tongue out	
19. Blow feather	
20. Scribble	

Note: Criteria for Success is achieved when two of three responses are correct.

MOTOR IMITATION

Level II

Developmental Step # 1

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Table, chairs

Place:

Unit classroom

Task:

Imitating "hands up": Child is to raise both hands above his head following demonstration of instructor.

Procedure:

1. Instructor demonstrates hands up using the phrase, "Look at me" and then, "You do it, hands up."
2. Child is to imitate hands up. Physical prompts may be used initially--to fade out appropriately.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow [illegible] ately.

Extinction should be used in lieu of other punishers. Return to the child after a short time.

MOTOR IMITATION

Level II

Developmental Step # 2

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Table, chairs

Place:

Unit classroom

Task:

Imitating "hands out": Child is to extend both hands out in front of him following demonstration of instructor.

Procedure:

1. Instructor demonstrates hands out using the phrase, "Look at me" and then, "You do it, hands out."
2. Child is to imitate hands out. Physical prompts may be used initially--to fade appropriately.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to the child after a short time.

MOTOR IMITATION

Level II

Developmental Step # 3

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Place:

Unit classroom

Task:

Clapping hands: Child is to strike palms of hands together at least twice following demonstration of instructor.

Procedure:

1. Trainer demonstrates clapping hands using the phrase, "Look at me" and then, "You do it, clap hands."
2. Child is to imitate clapping hands. Physical prompts may be used initially--to fade appropriately.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to the child after a short time.

MOTOR IMITATION

Level II

Developmental Step # 4

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Table, chairs

Place:

Unit classroom

Task:

Hands on head: Child is to place one or both hands on top of his head (above the ears at least) following demonstration of instructor.

Procedure:

1. **Instructor demonstrates putting hands on head using phrase, "Look at me" and then, "You do it, put hands on head."**
2. **Child is to imitate putting hands on head. Physical prompts may be used initially--to fade appropriately.**
3. **Reinforce immediately upon correct response.**

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to the child after a short time.

Developmental Step # 5

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Table, chairs

Place:

Unit classroom

Task:

Point to nose: Child is to raise either hand and touch finger to nose following demonstration of instructor.

Procedure:

1. **Instructor demonstrates pointing to nose using phrase, "Look at me" and then, "You do it, point to nose."**
2. **Child is to imitate pointing to nose. Physical prompts may be used initially--to fade appropriately.**
3. **Reinforce immediately upon correct response.**

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to the child after a short time.

MOTOR IMITATION

Level II

Developmental Step # 6

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Table, chairs

Place:

Unit classroom

Task:

Point to eyes: Child is to raise either hand and touch finger to eye following demonstration of instructor.

Procedure:

1. **Instructor demonstrates pointing to eye using phrase, "Look at me" and then, "You do it, point to eyes."**
2. **Child is to imitate pointing to eyes. Physical prompts may be used initially--to fade appropriately.**
3. **Reinforce immediately upon correct response.**

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to the child after a short time.

MOTOR IMITATION

Level II

Developmental Step # 7

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Chairs

Place:

- Unit classroom

Task:

Point to ear: Child is to raise either hand and touch finger to ear following demonstration of instructor.

Procedure:

1. **Instructor demonstrates pointing to ear using phrase, "Look at me" and then, "You do it, point to ear."**
2. **Child is to imitate pointing to ear. Physical prompts may be used initially--to fade appropriately.**
3. **Reinforce immediately upon correct response.**

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to the child after a short time.

MOTOR IMITATION

Level II

Developmental Step # 8

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Table, chairs

Place:

Unit classroom

Task:

Point to arm: Child is to raise either hand and touch finger to arm following demonstration of instructor.

Procedure:

1. **Instructor demonstrates pointing to arm using phrase, "Look at me" and then, "You do it, point to arm."**
2. **Child is to imitate pointing to arm. Physical prompts may be used initially--to fade appropriately.**
3. **Reinforce immediately upon correct response.**

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to the child after a short time.

MOTOR IMITATION

Level II

Developmental Step #9

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Table, chairs

Place:

Unit Classroom

Task:

Point to leg: Child is to use either hand and touch finger to leg following demonstration of instructor.

Procedure:

1. Instructor demonstrates pointing to leg using phrase, "Look at me" and then, "You do it, Point to leg."
2. Child is to imitate pointing to leg. Physical prompts may be used initially--to fade appropriately.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to child after a short time.

MOTOR IMITATION

Level II

Developmental Step #20

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Place:

Unit Classroom

Task:

Arms waving: Child is to extend both arms so that hands are over his head and move them back and forth following demonstrarion of instructor.

Procedure:

1. Instructor demonstrates waving arms using the phrase, "Look at me" and then, "You do it, wave arms."
2. Child is to imitate waving arms. Physical prompts may be used initially--to fade appropriately.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to child after a short time.

MOTOR IMITATION

Level II

Developmental Step #11

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Chairs

Place:

Unit Classroom

Task:

Rub tummy: Child is to place one hand on area of stomach and move it around following demonstration of instructor.

Procedure:

1. Instructor demonstrates rubbing tummy using the phrase, "Look at me" and then, "You do it, rub tummy."
2. Child is to imitate rubbing tummy. Physical prompts may be used initially--to fade appropriately.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to child after a short time.

MOTOR IMITATION

Level II

Developmental Step #12

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Chairs

Place:

Unit Classroom

Task:

Raise foot: While seated, child is to raise one foot at least six inches from resting position following demonstration of instructor.

Procedure:

1. Instructor demonstrates raising foot using phrase, "Look at me" and then, "You do it, raise foot."
2. Child is to imitate raising foot. Physical prompts may be used initially--to fade appropriately.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to child after a short time.

MOTOR IMITATION

Level II

Developmental Step #13

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Chairs

Place:

Unit Classroom

Task:

Wiggle fingers: Child is to hold hands up in front of him and wiggle fingers of both hands simultaneously following demonstration of instructor.

Procedure:

1. Instructor demonstrates wiggling fingers using the phrase, "Look at me" and then, "You do it, wiggle fingers."
2. Child is to imitate wiggling fingers. Physical prompts may be used initially--to fade appropriately.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to child after a short time.

MOTOR IMITATION

Level II

Developmental Step #14

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Chairs

Place:

Unit Classroom

Task:

Open mouth: Child is to part lips and teeth at least 1/2 inch, following demonstration of instrucsor.

Procedure:

1. Instructor demonstrates opening mouth using the phrase, "Look at me" and then, "You do it, open mouth."
2. Child is to imitate opening mouth. Physical prompts may be used initially--to fade appropriately.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to child after a short time.

MOTOR IMITATION

Level II

Developmental Step #15

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Chairs

Place:

Unit Classroom

Task:

Pat knees: Child is to hit both knees with palms of hands, striking knees at least twice, following demonstration of instructor.

Procedure:

1. Instructor demonstrates patting knees using phrase, "Look at me" and then, "You do it, pat knees."
2. Child is to imitate patting knees. Physical prompts may be used initially—to fade out appropriately.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to child after a short time.

MOTOR IMITATION

Level II

Developmental Step #16

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Chairs

Place:

Unit Classroom

Task:

Finger on feet: While seated, child is to lean over and touch his finger to his foot; following demonstration of instructor.

Procedure:

1. Instructor demonstrates touching finger to foot using phrase, "Look at me" and then, "You do it, touch finger to foot."
2. Child is to imitate touching finger to foot. Physical prompts may be used initially--to fade appropriately.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to child after a short time.

MOTOR IMITATION

Level II

Developmental Step #17

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Table, chairs

Place:

Unit Classroom

Task:

Point to mouth: Child is to use either hand and touch finger to mouth, following demonstration of instructor.

Procedure:

1. Instructor demonstrates pointing to mouth using phrase, "Look at me" and then, "You do it, point to mouth."
2. Child is to imitate pointing to mouth. Physical prompts may be used initially--to fade appropriately.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to child after a short time.

MOTOR IMITATION

Level II

Developmental Step #18

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Chairs

Place:

Unit Classroom

Task:

Tongue out: Child is to protrude tongue out of mouth so that the tip of his tongue extends about 1/4 inch beyond his lips; following demonstration of instructor.

Procedure:

1. Instructor demonstrates putting tongue out using the phrase, "Look at me" and then, "You do it, tongue out."
2. Child is to imitate putting tongue out. Physical prompts may be used initially--to fade appropriately.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to child after a short time.

MOTOR IMITATION

Level II

Developmental Step #19

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:
Chairs

Place:

Unit Classroom

Task:

Blow feather: Child is to blow air from mouth so that feather can be observed to move. (Instructor should hold feather for child). This will follow demonstration of instructor.

Procedure:

1. Instructor demonstrates blowing feather using the phrase, "Look at me" and then, "You do it, blow feather."
2. Child is to imitate blowing feather. Physical prompts may be used initially--to fade appropriately.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to child after a short time.

MOTOR IMITATION

Level II

Developmental Step # 20

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Table, chairs, paper, crayon

Place:

Unit classroom

Task:

Scribble: Child is to take crayon in hand and mark with it on sheet of paper; this following demonstration of instructor.

Procedure:

1. Instructor demonstrates scribbling using the phrase, "Look at me" and then, "You do it, scribble."
2. Child is to imitate scribbling. Physical prompts may be used initially--to fade appropriately.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to the child after a short time.

MOTOR IMITATION

Level III

The items in Level III deal primarily with gross motor movements with the emphasis being on locomotor skills. Again, the primary goal is imitation of motor movements. The secondary gains will hopefully be retention of terms and improved locomotor performance.

LANGUAGE DEVELOPMENT - PERCEPTUAL MOTOR TRAINING PROGRAM

Pre-test - Post-test Motor Imitation Level Three

Name _______________ No. Correct __________ Date _______________

Name of Recorder __________ No. Incorrect __________ % Reliability __________

Behavior	Appropriate	Inappropriate	No Response
1. Kick ball			
2. Balance beam			
3. Climb steps			
4. Climb ladder			
5. Transfer of object			
6. Turn around			
7. Crawl through barrel			
8. Roll ball			
9. Jump up and down			
10. Log rolling			
11. Transfer of object			
12.Jump up and down			
13. Balance beam			
14. Turn around			
15. Climb steps			
16. Kick ball			
17. Roll ball			
18. Crawl through barrel			
19. Climb ladder			
20. Log rolling			
21. Roll ball			

Behavior	Appropriate	Inappropriate	No Response
22. Balance beam			
23. Crawl through barrel			
24. Kick ball			
25. Turn around			
26. Transfer of object			
27. Log rolling			
28. Climb ladder			
29. Jump up and down			
30. Climb steps			

MRMRC

Language Development - Perceptual Motor Training Program

Correct Response Totals

Level III

Task	No. of Correct Responses
1. Turn around	
2. Kick ball	
3. Crawl through barrel	
4. Walk on balance beam	
5. Roll ball	
6. Climb steps	
7. Jump up and down	
8. Climb ladder	
9. Log rolling	
10. Transfer of object	

Note: Criteria for Success is achieved when two of three responses are correct.

MOTOR IMITATION

(Level Three)

Developmental Step #1

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Place:

Unit Classroom

Task:

Turn around: Child, standing up, is to pivot around one full turn, following demonstration of instructor.

Procedure:

1. Instructor demonstrates turning around using the phrase, "Look at me" and then, "You do it, turn around."
2. Child is to imitate turning around. Physical prompts may be used initially--to fade appropriately.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to child after a short time.

MOTOR IMITATION

(Level Three)

Developmental Step #2

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Chairs, balls

Place:

Unit Classroom

Task:

Kick ball: While sitting, child is to strike ball with one of his feet, moving the ball a distance of at least a foot. (The trainer should hold retrieval string attached to ball.) This should follow demonstration of instructor.

Procedure:

1. Instructor demonstrates kicking ball using the phrase, "Look at me" and then, "You do it, kick the ball."
2. Child is to imitate kicking the ball. Physical prompts may be used initially--to fade appropriately.
3. Reinforce upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to child after a short time.

MOTOR IMITATION

(Level Three)

Developmental Step #3

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Barrel

Place:

Unit Classroom

Task:

Crawling and/or creeping through the barrel following demonstration of instructor.

Procedure:

1. Instructor demonstrates crawling through barrel using the phrase, "Look at me" and then, "You do it, crawl through the barrel."
2. Child is to imitate crawling through the barrel. Physical prompts may be used initially--to fade appropriately.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to child after a short time.

MOTOR IMITATION

(Level Three)

Developmental Step #4

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Balance beam

Place:

Unit Classroom

Task:

Walking across balance beam following demonstration of instructor.

Procedure:

1. Instructor demonstrates walking across balance beam using the phrase, "Look at me" and then, "You do it, walk across the balance beam."
2. Child is to imitate walking across the balance beam. Physical prompts may be used initially--to fade appropriately.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to child after a short time.

MOTOR IMITATION

(Level Three)

Developmental Step #5

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Ball

Place:

Unit Classroom

Task:

Rolling ball: Child is to sit on floor with legs apart and is to roll the ball at least a distance of one foot following demonstration of instructor.

Procedure:

1. Instructor demonstrates rolling the ball using the phrase, "Look at me" and then, "You do it, roll the ball."
2. Child is to imitate rolling the ball. Physical prompts may be used initially—to fade appropriately.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to child after a short time.

MOTOR IMITATION

(Level Three)

Developmental Step #6

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Portable steps

Place:

Unit Classroom

Task:

Climbing steps: Child is to maintain forward position and climb at least three steps following demonstration of instructor.

Procedure:

1. Instructor demonstrates climbing steps using the phrase, "Look at me" and then, "You do it, climb the steps."
2. Child is to imitate climbing the steps. Physical prompts may be used initially--to fade appropraitely.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to child after a short time.

MOTOR IMITATION

(Level Three)

Developmental Step #7

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Place:

Unit Classroom

Task:

Jumping up and down: Child is to stand facing instructor and jump up in the air so that both feet leave the ground at least twice; this following demonstration of instructor.

Procedure:

1. Instructor demonstrates jumping up and down using the phrase, "Look at me" and then, "You do it, jump up and down."
2. Child is to imitate jumping up and down. Physical prompts may be used initially--to fade appropriately.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to child after a short time.

MOTOR IMITATION

(Level Three)

Developmental Step #8

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Step ladder

Place:

Unit Classroom

Task:

Climbing ladder: Child is to climb at least two rungs of the ladder following demonstration of instructor.

Procedure:

1. Instructor demonstrates climbing ladder using phrase, "Look at me" and then, "You do it, climb the ladder."
2. Child is to imitate climbing the ladder. Physical prompts may be used initially--to fade appropriately.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and rangible, should follow immediately.

Extinction should be used in liru of other punishers. Return to child after a short time.

MOTOR IMITATION

(Level Three)

Developmental Step #9

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Gym mats

Place:

Unit Classroom

Task:

Log rolling (basic tumbling): Child is to assume prone position, then roll over and over approximately six feet following demonstration of instructor.

Procedure:

1. Instructor demonstrates log rolling using the phrase, "Look at me" and then, "You do it, roll over and over."
2. Child is to imitate rolling over. Physical prompts may be used initially--to fade appropriately.
3. Reinforce immediately upon correct response.

NOTE: REinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to child after a short time.

MOTOR IMITATION

(Level Three)

Developmental Step #10

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Chair, small wooden block

Place:

Unit Classroom

Task:

Bilateral transfer of object: The block should be placed in one or the other of the child's hands and the child is to transfer the block to his other hand following demonstration of instructor.

Procedure:

1. Instructor demonstrates transfer of block from one hand to the other using the phrase, "Look at me" and then, "You do it, put the block in your other hand."
2. Child is to imitate transferring block from one hand to the other. Physical prompts may be used initially--to fade appropriately.
3. Reinforce immediately upon correct response.

NOTE: Reinforcement, both verbal and tangible, should follow immediately.

Extinction should be used in lieu of other punishers. Return to child after a short time.

RECEPTIVE VOCABULARY

The Receptive Vocabulary portion of the Language Development-Perceptual Motor Training Program deals with the child's ability to correctly identify and discriminate a desired item from a group of dissimilar ones. Final learning in this section will be achieved when this can be performed successfully following an auditory command. Since the overall perception and functioning level of the severely retarded is often greatly diminished, it is advisable to present the learning item in sequential order. These steps maximize the use of the perceptual cues of tactile kinesthesia, vision and audition of each child. If the individual child exhibits a higher level of functioning or ease of learning, some of the sequential steps may be eliminated or presented on a higher level. However, for most of the children in the program, the procedure should follow the learning steps directly. Basically, these are:

1. Presentation of the item to the client accompanied by a tactile, visual and auditory cue, i.e., "(Child's name), this is a table. Look at it and touch it." The instructor may physically manipulate the child's hand over the object. In this step the function of the item is also demonstrated to help maximize the sensory input of information.
2. Presentation of the same object utilizing visual and auditory cues. In this step the Match to Sample portion of the program is initiated. The instructor holds an object before the client and asks him to locate one like it, i.e., "(Child's name), here is a spoon. Look at it and fine one like it." Initially, only one similar object is placed before the child, enabling him to complete the matching suc-

cessfully. Later a similar and a dissimilar item is used and the task will be to select and match the similar object with the instructor's. More different items can be introduced as the child progresses in the learning. Visual and auditory memory retention can be started by having the client match more than one object.

3. Presentation of the object with an auditory cue. This is the learning stage of the program and is termed the Discrimination Section. The instructor initially places an object before the client and asks him to identify it, i.e., "(Child's name), this is a *glass*. Show me the *glass*." Then the same object is paired with a dissimilar one and the child chooses the one previously learned. Further discrimination can be done with more different objects being placed before the subject, as well as having the client identify more than one item.

The receptive vocabulary list has been divided into two categories, Levels I and II. Level I contains 20 tangible, concrete objects which have been listed according to their importance in developmental learning and the order in which they will be taught.

LEVEL I

table
chair
spoon
fork
knife
glass
cup
bowl
plate
toast
cookie
shirt
pants
shoes
socks
hat
boots
toothbrush
blocks
ball

LEVEL II

wagon
can
drum and stick
bell
horn
door
windows
flowers

bus
bed
potty room
bib
car
tree
TV

Each of these terms is learned utilizing the sequential procedure previously explained. After introduction of the object (Strategy 1), the item is learned according to the Match to Sample section (Strategy 2). Following this, each item is presented using the Discrimination portion (Strategy 3), until the child can successfully perform the task upon presentation of an auditory command.

The following are sample illustrative developmental strategies for the Introduction, Match to Sample, and Discrimination sections of the Receptive Vocabulary learning. As each new term is taught, it may be combined with previously learned ones in the Match to Sample and Discrimination sections, and thereby serve as a learning review. These strategies are not fixed, but may serve as dynamic building blocks for the learning of new items.

Included in the Receptive Vocabulary section are several sub-strategies. These are additional approaches to teaching various terms and are included to provide more background information. These sub-strategies are "auditory association" and "function or term". While not applicable to all of the terms, they can be useful when used in conjunction with the basic strategies given (Introduction, Match to Sample, Discrimination). The rationale for their use, the sample procedure steps, as well as the terms they can be used with are found at the end of the Receptive Vocabulary section.

RECEPTIVE VOCABULARY

LEVEL I

- table
- chair
- spoon
- fork
- knife
- glass
- cup
- bowl
- plate
- toast
- cookie
- shirt
- pants
- shoes
- socks
- hat
- boots
- toothbrush
- blocks
- ball

RECEPTIVE VOCABULARY

Level I

INTRODUCTION

The purpose of this section is to familiarize the child with the 20 receptive vocabulary items listed under Level I. This strategy utilizes all of the perceptual cues or senses the child possesses; tactile, visual, and auditory. Each object is initially presented individually and the client is afforded the opportunity to touch and look at it while following an auditory cue. Specifically, the section:

1. Gives maximum sensory input through the use of the perceptual cues of tactition, vision and audition.
2. Introduces the child to the 20 receptive vocabulary items in Level I.

SAMPLE

RECEPTIVE VOCABULARY - INTRODUCTION

Level I

Developmental Step #1-20

Reinforcers:

M & M's, ice cream
Social reinforcement
Verbal praise - "Good boy (girl), (name of child)."

Materials:

List of Level I, 20 words
Concrete objects

Place:

Unit classroom

Task:

To familiarize the child with each of the 20 individual items.

Procedure:

One object is placed before the resident.

1. The instructor picks up the object and places it on the table saying, "Here is a ______________."
2. The instructor then places the object in front of the child saying, "Show me the ________________."
3. If the child points to, picks up or touches the object, the instructor reinforces by saying, "Good boy (girl)" and by giving edibles.
4. If the child does none of the above, the instructor repeats the instruction, "Show me the ____________" and places the child's hand on the object, reinforcing this behavior.
5. The procedure is followed for each of the 20 objects.

NOTE: The 20 items are presented singly to the child. Pictures of the concrete objects may be used to aid in the familiarization process.

RECEPTIVE VOCABULARY

Level I

MATCH TO SAMPLE

This section presents the 20 items in Level I, using a matching task and emphasizing visual and auditory cues. The instructor first places an object before the child and a similar one before himself. As the child achieves matching success at this basic level, dissimilar objects are placed before him and discrimination learning is initiated when the original item is matched with the instructor's. Subsequent tasks can teach the child visual retention as more items are used. Specifically, the section:

1. Teaches the child to match similar objects.
2. Introduces additional stimuli to the matching process.
3. Begins discrimination learning as more items are presented and matched.

SAMPLE

RECEPTIVE VOCABULARY - MATCH TO SAMPLE

Level I

Developmental Step #1-20

Reinforcers:

M & M's, ice cream
Social reinforcement
Verbal praise - "Good boy (girl), (name of resident)."

Materials:

List of Level I, 20 words
Concrete objects

Place:

RECEPTIVE VOCABULARY

Level I

DISCRIMINATION

The final section in Level I employs the 20 vocabulary items in a discrimination task. Receptive learning will be accomplished when the child can select the appropriate object from a group of two or more, following an auditory cue. Initially, a single object is placed before the child, the task being for him to respond to it in some manner. Then the original item is paired with a different one and he must select the original upon presentation of an auditory command. Later teaching can introduce more dissimilar objects paired with the original. Auditory retention is achieved when the child is able to discriminate more than one item. Specifically, the section:

1. Teaches the child to discriminate similar objects and later dissimilar ones following an auditory cue.
2. Tests and increases auditory memory as more items are discriminated.

SAMPLE

RECEPTIVE VOCABULARY - DISCRIMINATION

Level I

Developmental Step #1-20

Reinforcers:

M & M's, ice cream
Social reinforcement
Verbal praise - "Good boy (girl), (name of resident)."

Materials:

List of Level I, 20 words
Concrete objects

Place:

Unit classroom

Task:

Children identify each of the 20 objects paired with one or more different objects.

Procedure:

An original object and a different object is placed before the child.

1. The instructor picks up each object and names it by saying, "Here is a ________________, and here is a _______________."
2. The instructor asks the child to identify the original object by saying, "Show me the _________________."
3. If the child points to, picks up or touches the original object, the instructor reinforces by saying, "Good boy (girl)," and by giving edibles.
4. If the child does none of the above, the instructor repeats the instruction, "Show me the _______________" and places the child's hand on the object, reinforcing this behavior.
5. The procedure is followed for the 20 individual objects and later pairing them with more of the different objects.

NOTE: The order or placement of objects may be changed if a child exhibits preservative behavior so that success can be obtained. The items are paired with more of the different items to increase discrimination learning.

Receptive Vocabulary

Level II

wagon

can

drum and stick

bell

horn

door

windows

flowers

bus

bed

potty room

bib

car

tree

T.V.

RECEPTIVE VOCABULARY

Level II

INTRODUCTION

The purpose of this section is to acquaint the child with the 15 receptive vocabulary items listed under Level II. Some of these objects are not as tangible or accessible as the items in Level I, so it may be necessary to physically take the child to the situation. The strategy utilizes all of the perceptual cues: tactile, visual and auditory. Each object is initially presented individually and the client is afforded the opportunity to touch and look at it while following an auditory cue. In appropriate instances the use of colored pictures of the items will assist in the familiarization process. Specifically, the section:

1. Gives maximum sensory input through use of the perceptual cues of tactition, vision and audition.
2. Introduces the child to the 15 receptive vocabulary items in Level II.
3. Combines pictures with the objects to aid in introducing them.

SAMPLE

Receptive Vocabulary - Introduction

Level II

Developmental Step #1-15

Reinforcers:

M & M's, ice cream
Social reinforcement
Verbal praise - "Good boy (girl), (name of child)."

Materials:

List of Level II, 15 words
Concrete objects
Colored pictures of objects

Place:

Unit classroom and/or situation

Task:

To familiarize the child with each of the 15 individual items.

Procedure:

One object is placed before the resident, or he is shown the object in the situation.

1. The instructor picks up (shows) the object and places it on the table saying, "Here is a ______________."
2. The instructor then places the object in front of the child saying, "Show me the ____________."
3. If the child points to, picks up or touches the object, the instructor reinforces by saying, "Good boy (girl)" and by giving edibles.
4. If the child does none of the above, the instructor repeats the instruction, "Show me the ______________" and places the child's hand on the object, reinforcing this behavior.
5. The procedure is followed for each of the 15 objects.

NOTE: The 15 items are presented singly to the child. Use of the pictures is encouraged in situations where the items are not easily accessible.

RECEPTIVE VOCABULARY

Level II

MATCH TO SAMPLE

This section presents the 15 items in Level II using a matching technique and emphasing visual and auditory cues. It may be necessary to use some of the objects in the physical situation to accomplish this task. The instructor first places an object before the child and a similar one before himself. As the child achieves matching success at this basic level, dissimilar objects are placed before him and discrimination learning is initiated when the original item is matched with the instructor's. Subsequent learning can teach the child visual retention as more items are used. Colored pictures should be used to help match the less tangible items. Specifically, the section:

1. Teaches the child to match similar objects.
2. Introduces additional stimuli to the matching process.
3. Begins discrimination learning as more items are presented and matched.
4. Combines pictures with the objects to assist in the matching task.

SAMPLE

Receptive Vocabulary - Match to Sample

Level II

Developmental Step #1-15

Reinforcers:

M & M's, ice cream
Social reinforcement
Verbal praise - "Good boy (girl), (name of child)."

Materials:

List of Level II, 15 words
Concrete objects
Colored pictures of objects

Place:

Unit classroom and/or situation

Task:

Children identify object in presence of same object and later in presence of different objects.

Procedure:

1. The instructor places an object (or shows the object in the situation) in front of the child, as well as himself, saying each time, "Here is a ______________."
2. The instructor then instructs the child by saying, "Show me the ________."
3. If the child points to, picks up or touches the object, the instructor reinforces by saying, "Good boy (girl)" and by giving edibles.
4. The instructor then places another object next to the original one saying, "Here is a _____________."
5. The child is then asked to identify the original object by the instruction, "Show me the _______________."
6. The procedure is followed for each of the 15 objects plus pairing them with different objects.

NOTE: Initially, the object is presented in the presence of a similar object to aid in successful identification. Later the object is shown in the presence of dissimilar objects to begin discrimination and visual retention. Use of the pictures is encouraged.

RECEPTIVE VOCABULARY

Level II

DISCRIMINATION

The final section in Level II employs the 15 vocabulary items in a discrimination task. Receptive learning will be accomplished when the child can select the appropriate object from a group of two or more, following an auditory cue. Initially, the child is shown a single object with the task being for him to respond to it in some manner. Then the original item is paired with a different one, and he must select the original upon presentation of an auditory command. In the physical situation, teaching this strategy can make use of the items present in that situation. Later discrimination learning can introduce more dissimilar objects paired with the original. Auditory retention is achieved when the child is able to discriminate more than one item. Colored pictures should be utilized to help teach in the discrimination of the less tangible items. Specifically, the section:

1. Teaches the child to discriminate similar objects and later dissimilar ones following an auditory cue.
2. Tests and increases auditory memory as more items are discriminated.
3. Combines pictures with the objects to aid in the discrimination process.

SAMPLE

Receptive Vocabulary - Discrimination

Level II

Developmental Step #1-15

Reinforcers:

M & M's, ice cream
Social reinforcement
Verbal praise - "Good boy (girl), (name of child)."

Materials:

List of Level II, 15 words
Concrete objects
Colored pictures of objects

Place:

Unit classroom and/or situation

Task:

Children identify each of the 15 objects paired with one or more different objects.

Procedure:

An original object and a different object is placed before (shown to) the child.

1. The instructor picks up (shows) each object and names it by saying, "Here is a _________ and here is a _________."
2. The instructor asks the child to identify the original object by saying, "Show me the _____________."
3. If the child points to, picks up or touches the original object, the instructor reinforces by saying, "Good boy (girl)," and by giving edibles.
4. If the child does none of the above, the instructor repeats the instruction, "Show me the __________" and places the child's hand on the object, reinforcing this behavior.
5. The procedure is followed for the 15 individual objects and later pairing them with more of the different objects.

NOTE: The order or placement of the objects may be changed if a child exhibits perseverative behavior so that success can be obtained. The items are paired with more of the different items to increase discrimination learning. Use of the pictures is encouraged.

AUDITORY ASSOCIATION

The child is trained to point to twelve pictures of sound-producing objects that are present in the unit. A learning by-product of this initial training is the association of the twelve pictures with their label and the sound they make.

The trainer's verbal and physical prompts (labeling and pointing) are faded and the child is required to identify a picture in a three-choice set using auditory cues.

The degree of difficulty can be varied depending on the distractor pictures in the three-choice set. (chair-telephone-table) (shower-toilet-faucet).

LIST OF AUDITORY ASSOCIATION OBJECTS AND THEIR CORRESPONDING SOUNDS

Object	Sound
Telephone	Ringing
Faucet	Running water
Toilet	Flushing
Ball	Bouncing
TV	Music, voices, etc.
Drum	Beating
Pitcher	Pouring water
Bell	Ringing
Sweeper	Rushing air
Child, glass, straw	Sucking
Door	Closing
Person	Familiar voice

AUDITORY ASSOCIATION

Developmental Step #1

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Table, chairs, tape recorder, pictures (12, selected on the basis of environmental familiarity)

Place:

Unit Classroom

Task:

Pointing at a picture

Procedure:

1. A picture is placed on the table in front of the child. The trainer points to the picture identifying it by saying, "Look (child's name), (name of object)."
2. The taped sound of the object is played. The trainer says, "Listen (child's name), point to the (name of the object)."
3. If the pointing response does not occur spontaneously, the child's finger is placed on the picture with reinforcement provided.
4. This procedure is followed for each of the twelve pictures.

NOTE: Each child must be able to elicit a pointing response before going on to the next developmental step.

AUDITORY ASSOCIATION

Developmental Step #2

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Table, chairs, tape recorder, pictures (12, selected on the basis of environmental familiarity)

Place:

Unit Classroom

Task:

Pointing at a picture in the presence of a distractor picture.

Procedure:

1. A picture and a distractor picture are placed on the table in front of the child. The trainer points to the picture identifying it by saying, "Look (child's name), (name of the object)."

2. The taped sound of the object is played, the trainer says, "Listen (child's name), point to the (name of the object)."

3. The child's pointing at the correct picture is reinforced.

4. This procedure is followed for each of the twelve pictures.

NOTE: If the child points at the distractor picture, remove that picture and repeat the procedure in Developmental Step #1. Continue to revert back to #1 from #2 as long as the child fails.

AUDITORY ASSOCIATION

Developmental Step #3

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Table, chairs, tape recorder, pictures (12, selected on the basis of environmental familiarity)

Place:

Unit Classroom

Task:

Pointing at a picture in the presence of two distractor pictures.

Procedure:

1. A picture and two distractor pictures are placed on the table in front of the child. The taped sound of the object is played. The trainer says, "Listen (child's name), point to the (name of the object)."
2. The child's pointing at the correct picture is reinforced.
3. This procedure is followed for each of the twelve pictures.

NOTE: Distractor pictures may be varied from pictures of objects that make no sound to pictures of objects that make sounds very similar to the object picture--gross to fine auditory discrimination.

AUDITORY ASSOCIATION

Developmental Step #4

Reinforcers:

Tangibles - M & M's, fruit loops, ice cream, juice, etc.

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Table, chairs, tape recorder, pictures (12, selected on the basis of environmental familiarity)

Place:

Unit Classroom

Task:

Pointing at a picture in the presence of two distractor pictures using auditory association.

Procedure:

1. A picture and two distractor pictures are placed on the table in front of the child. The taped sound of the object is played and the trainer says, "Listen (child's name), what is that sound?"

2. If the child points to the correct picture, reinforce his behavior. If the child verbally identifies the object without pointing, the trainer says, "Good boy (girl), (name of child), point to the (name of object)."

3. Reinforce immediately the child's pointing to the correct picture.

4. This procedure is followed for each of the twelve pictures.

NOTE: Rotate the object picture with the distractor picture so that it is not shown in the same position each time.

FUNCTION OF TERM - TEACHING OF SELF-HELP SKILLS

This section of the Language Development-Perceptual Motor Training Program is designed to meet two needs. Initially it provides additional modes for teaching the receptive vocabulary items; additional stimulation of the same terms in a different context. Secondly, and more fundamentally, it suggests specific strategies for teaching self-care behaviors. It is included under the "Receptive Vocabulary" section since a logical time to teach the proper use of a spoon, for example, might be while the child is learning what a spoon is and visa versa. By this time, too, the child should be under fairly good behavioral control and both trainer and child should be familiar with the "rules of the game".

In some instances a child may already be proficient in self-feeding, dressing and toileting and this section would only serve as an additional association area. However, a large percentage of those classified as severely retarded will not have these behaviors in their repertoire and sufficient time should be spent in this area in an effort to develop these skills.

As has been mentioned throughout the Language Program, the ideas and concepts here are simply proposals. As each situation demands there will be need for modification and adjustments. Because there are always several "other" ways of teaching these essential daily living skills we have included a reference section at the end of the program booklet, listing some of the work done in these areas to assist in developing the most comprehensive training program possible.

In order to more efficiently utilize the function of term section, the next several paragraphs contain material dealing with the strategies of shaping and back chaining. The Language Development Task Force has received assistance from

Peter C. DeGraff, Behavioral Technician, with the Center's Home Assistance Program, in preparing this section. The discussion of shaping and back-chaining is followed by a self-help check list which can be used for evaluation purposes. Sample developmental steps for self-help training are also given. The final portion of the Function of Term section deals with toilet training. It is intended to be an overview of techniques and several reference sources are listed.

Shaping and Back-Chaining

One of the most rewarding tasks of the behavior modifier is in the development of previously non-existent or infrequently manifested behaviors. Unfortunately, to assist a mentally retarded child in learning to dress himself, to feed himself, to utter intelligible words, to take care of his own toileting requirements, and to perform even the simplest self-care skills can be a very long and arduous endeavor. Often this positive approach is relegated to some future date when troublesome, maladaptive responses have been eliminated. Even the parents of retarded children often fail to notice behavioral deficits because they are so overshadowed by the existence of severe inappropriate behavior. The operant conditioning method provides us with very useful, effective, and relatively fast working techniques to accomplish the building of deficit behavior. There is no reason or published edict why these methods cannot be employed immediately in conjunction with techniques to weaken behavior of maladaptive nature. Indeed, the most illustrious accolade given to the field of behavior modification should be for its ability to effectively develop that which does not exist.

A primary tool for building behavior is called "shaping" or the use of successive approximations. Shaping implies that you are attempting to establish a rather complex response or sequence of responses by first building a small piece of the whole and then systematically adding to it and refining it until the goal behavior is attained. It is almost like ascending a flight of stairs in that the landing cannot be reached until each step has been traversed. To make this more clear, let's outline each necessary segment of a shaping procedure and explain it fully.

First, before any conditioning can be accomplished, it is mandatory that the goal or final behavior is recognized and judged to be a useful and desirable addition to an individual's behavioral repertoire. For instance, we would almost certainly want to help a 10-year-old to feed himself with utensils, but it would not be wise to hope that a severely retarded person could be conditioned to operate a computer. Make sure that the target behavior is within the means of both the procedure and the subject!

Next, the goal behavior must be broken down into very explicit parts of the whole--the "steps" in the shaping sequence. Depending on your assessment of the individual, this can entail the development of as many as forty or fifty very small segments or, perhaps, as few as two or three. It is a general rule, however, that you should risk including too many steps as opposed to including too few. "Too few" raises the possibility that the subject's responses will extinguish long before the goal is attained. An example of a relatively simple goal behavior which has been partially broken down into the shaping steps is that of putting on a sock. This task might be defined as:

1. Reaching toward the sock.
2. Grasping it by the top with thumb and forefinger.
3. Moving it toward the foot.
4. Placing the extended toes into the top of the sock.
5. Pulling the sock over the toes.
6. Over the instep, etc.

On the other hand, it could easily include five times this number. The important point is to define each step operantly--so that it can be performed and reinforced independently of all other segments.

Once these initial requirements are completed, the actual conditioning may begin. One should try to think of each shaping step as a separate conditioning procedure and work at it just as consistently as if you were developing a very complex piece of behavior. When shaping a previously nonexistent behavior, the first step may be rather difficult to achieve unless the subject is physically assisted in making the response. For instance, if you are conditioning self-feeding and expect the individual to pick up the spoon on command, you might wait forever before being able to reinforce the correct response. It is much easier to give the verbal command, physically guide the subject through the first few trials, and reinforce him on a continuous schedule for appropriate response. Gradually reduce the assistance offered until the response is made consistently over a number of subsequent trials.

As a specific segment of the goal behavior is conditioned so that it is performed reliably on command, it is time to shift the reinforcement requirement one step up the stairs. Now, instead of reinforcing the first step only, two segments must be completed. This "shifting requirement" and the differential reinforcement of closer approximations to the goal are the key factors in any shaping procedure. Always be sure that the first step is well established before proceeding to the next, but, once you proceed, reinforce only the expected--or defined--response. Do not go in reverse unless you are sure that the subject is not capable of the expected response. If this is the case, you have made a mistake in breaking down the behavior and should try again before proceeding. Most failures in any shaping procedure are the fault of the behavior modifier--not of the subject.

Finally, when the goal behavior is reached through the continuous reinforcement of successive approximations, it is time to place the completed response on some intermittent schedule of reinforcement. Accomplish this gradually--using primarily social reinforcers--until the behavior is easily maintained with minimal effort. At this point you may reward yourself for a job well done.

Very closely related to this shaping technique is another tool for behavior development called "back chaining". Back chaining, too, builds complex responses by breaking them down and conditioning each segment separately, but, instead of proceeding from the first step to the last, it conditions the last step first and proceeds in reverse.

Back chaining is an extremely useful technique in that it serves to produce must faster results for conditioning certain types of behavior. Self-dressing skills, self-feeding, and almost any relatively complex sequence of responses such as making a bed or tying shoes can be conditioned, using a back-chaining paradigm.

There are certain theoretical distinctions between the two operant methods--the most important of which is that in back chaining the previously conditioned response acts as a discriminative stimulus for the next response in the chain. This probably accounts for the differences in time necessary to complete a procedure between shaping and chaining. Back chaining, as we have said, can be a faster method for some behaviors. Another significant distinction is that in back chaining the completion of the entire task is always accomplished on every trial. By reinforcing the performance of the last step first, this is self-evident. It appears that the completion of any response is more rewarding than the completion of seemingly unrelated response segments occurring at the beginning of a sequence. For example, in tying a shoe it feels better to accomplish the final tightening of the bow than it does to pick up each lace and simply cross them. In other words, an extra "intrinsic" reinforcer is added to the tangible reinforcer presented for a correct performance.

Procedurely, both techniques are very similar. The goal behavior is defined, broken down into explicit segments, and then conditioned one at a time until the goal is achieved. In back chaining, however, the last segment of the breakdown is handled first and, in some instances, a shaping technique must be must be used to accomplish this. When that last step has been performed and reinforced, then the next to the last step is added as a requirement and the subject must perform that one and the last one, in succession, to receive the reinforcer. Although it sounds complicated, perhaps an example will clarify the point.

If we were attempting to condition "putting on a pullover shirt", using a back-chaining paradigm, the breakdown of responses might be:

1. Grasping the shirt by the bottom.
2. Inserting the head.
3. Pulling the shirt over the head.
4. Inserting right arm.
5. Inserting left arm.
6. Pulling the shirt down over the stomach.

The conditioning procedure would go in reverse and "pulling the shirt over the stomach" would be the first step to achieve. The shirt would be placed on the subject for him up to that point and he would be required only to pull it down and would then be reinforced. After that had been accomplished consistently over a number of trials, the shirt would be placed on with the left arm out. Then the subject would be required to perform Steps #5 and #6 to receive his reinforcer. This would continue down the chain, with the subject expected to perform one more step each time until the entire behavior was mastered. Then, of course, the reinforcement schedule would be altered to maintain the entire behavior.

These two operant conditioning techniques--shaping and back chaining--are the core of behavior modification. They should be used whenever possible to assist the behavior modifier in developing new behavior. Although they are not difficult, they require practice to achieve the degree of sophistication necessary to accomplish their intended purpose. Used conscientiously, they are tremendous assets to any field of applied operant conditioning.

SELF-HELP CHECK LIST

The trainer should ask the child to perform the self-help skills--"John, put your shirt on, etc.", without prompting or aid. He then notes on the checklist which of the steps within a skill the child has or has not mastered. When the list is completed, the trainer should have a relatively accurate picture of the child's abilities in the area of self-help. This list will also provide a start point for teaching those skills the child is unable to perform. Several alternative strategies for teaching of skills have been outlined. Selection of the technique is expected to vary with different children and trainers.

As teaching of self-help skills is an adjunctive section to Receptive Vocabulary, these activities are to facilitate learning of the vocabulary terms. For example, when a child is learning terms for items of clothing the trainer may at the same time be working with him in the area of self-dressing. Teaching the child to do fasteners of various sorts that are often found on clothing, such as buttons and zippers, may also be incorporated. This technique is also applicable to learning the names of eating utensils. Their appropriate use in self-feeding may be taught at the time the child is learning the proper terms.

When the trainer feels the child has become adept at the self-help skills, the list may again be used as a post-check for assessment.

MUSKEGON REGIONAL MENTAL RETARDATION CENTER

Check-list and Developmental Steps for Teaching Self-Help Skills
Pre-check/Post/check

________________ Name

________________ B.D.

________________ Date

________________ Recorder

I. Dressing

A. Getting dressed

1. Underwear

________a. Puts one leg in
________b. Puts other leg in
________c. Pulls pants to knees
________d. Pulls over waist

2. Shirt

(Pullover)

________a. Pulls shirt over head
________b. Puts one arm in shirt
________c. Puts other arm in shirt
________d. Pulls down shirttail

(Button shirt)

________a. Puts one arm in shirt
________b. Puts other arm in shirt
________c. Buttons shirt

3. Pants

________a. Puts in one leg
________b. Puts in other leg
________c. Pulls pants to knees
________d. Pulls to waist
________e. Pulls over waist
________f. Fastens pants (when appropriate)

4. Socks

________a. Pulls sock over toe
________b. Pulls sock over heel
________c. Pulls socks up completely
________d. Does same for other sock

5. Shoes

________a. Pulls tongue away from shoe
________b. Puts toe in shoe
________c. Pulls shoe over heel
________d. Pulls laces tight
________e. Completes tying

NOTE: Techniques are similar for additional articles of clothing such as blouse, pajamas, coat, boots, etc.

B. Getting undressed

1. Shoes

________a. Unties laces
________b. Loosens laces
________c. Removes each shoe

2. Socks
________a. Pulls sock down to ankle
________b. Pulls sock off heel
________c. Pulls sock off toes

3. Pants
________a. Unfastens pants (if appropriate)
________b. Pulls pants below waist
________c. Pulls pants to ankles
________d. Removes one leg from pants
________e. Removes other leg from pants

4. Shirt
________a. Pulls shirttail above waist
________b. Pulls shirt over head
________c. Removes one arm from shirt
________d. Removes other arm from shirt

5. Underwear
________a. Pulls pants below waist
________b. Pulls pants to ankles
________c. Removes one leg from pants
________d. Removes other leg from pants

C. Fasteners
1. Button
________a. Grasps button
________b. Pulls button partially through hole
________c. Pulls button through hole completely

2. Snap
________a. Grasps each portion of snap in appropriate hand
________b. Centers snap halves over eachother
________c. Pushes snap halves together

3. Zip
________a. Grasps bottom of zipper or cloth
________b. Grasps zipper tab
________c. Pulls zipper up

4. Hook
________a. Grasps each portion of hook in appropriate hand
________b. Slides hook halves together

5. Buckle
________a. Grasps leather tab in appropriate hand
________b. Slides tab through buckle
________c. Pulls tab back to appropriate hold
________d. Inserts buckle-tab in appropriate hole
________e. Slides end of belt into belt loop

6. Lace (assuming laces are partially laced in shoes)
________a. Grasps lace and inserts through appropriate eyelet
________b. Uses alternate hand to pull lace through eyelet
________c. Grasps opposite sequential lace and repeats procedure
________d. Pulls laces tight

7. Tying
________a. Grasps both laces and pulls tight
________b. Crosses laces over eachother
________c. Slips one lace under loop
________d. Grasps laces in each hand and pulls tight
________e. Forms loop or bow with one lace
________f. Wraps opposite around formed loop
________g. Pushes lace through formed loop and pulls to form a bow

II. Toileting

________A. Enters bathroom with or without assistance
________B. Goes to toilet
________C. Takes down pants
________D. Sits on toilet
________E. Eliminates if necessary
________F. Stands up when finished
________G. Uses paper appropriately if available
________H. Pulls up pants
________I. Flushes toilet
________J. Washes hands appropriately (See section on grooming)
________K. Leaves bathroom

III. Eating

A. Use of spoon
(Assumed: Food used in this teaching section is appropriate for spoon usage.)
________1. Picks up spoon from table with favored hand
________2. Scoops food onto spoon without using fingers
________3. Brings spoon to mouth with minimal amount of spilling
________4. Places spoon in mouth
________5. Returns spoon to plate

B. Use of fork
(Assumed: Food used in this teaching section is appropriate for fork usage.)
________1. Picks up fork from table with favored hand
________2. Picks up food with fork without using fingers
________3. Brings food to mouth with minimal amount of spilling

________4. Places fork in mouth
________5. Returns fork to plate

C. Use of knife
(Assumed: Food used in this teaching section is appropriate for knife usage.)
________1. Grasps knife in favored hand, sharpened edge down
________2. Picks up fork in opposite hand
________3. Secures food on plate with fork
________4. Makes cutting motion across food with knife blade
________5. Places knife on table and picks up food with fork
________6. Places food in mouth
________7. Returns fork to plate

D. Use of glass
________1. Grasps glass in favored hand
________2. Brings glass to mouth with minimal spilling
________3. Drinks appropriately from glass with minimal spilling
________4. Returns glass to table and places it appropriately on table

IV. Grooming

A. Washing and drying hands
________1. Goes to sink
________2. Uses one hand to turn on faucet
________3. Places both hands under running water
________4. Picks up soap
________5. Rubs soap between palms
________6. Replaces soap
________7. Rubs palms together and back of each hand
________8. Rinses hands thoroughly under running water
________9. Turns off faucet
_______10. Takes paper towel
_______11. Dries palms and backs of hands
_______12. Deposits towel in waste receptacle

B. Washing and drying face
________1. Goes to sink
________2. Uses one hand to turn on faucet
________3. Places wash cloth under running water
________4. Squeezes out excess water, if capable
________5. Rubs wet wash cloth over facial area
________6. Dries face if applicable

C. Combing and brushing hair

________1. Picks up own comb or brush in favored hand
________2. Positions self in front of mirror
________3. Moves brush or comb over hair in downward motion
________4. Continues motion until all hair has been brushed or combed to some degree
________5. Replaces brush or comb in proper place

NOTE: It is expected that there will be a wide variety of techniques used in brushing hair, depending on the capabilities of the child.

D. Brushing teeth

________1. Picks up own toothbrush
________2. Goes to sink
________3. Turns on faucet
________4. Applies paste to brush if capable
________5. Applies brush to frontal and side teeth, using up and down brushing motion.
________6. Rids mouth of toothpaste
________7. Wipes mouth on toweling
________8. Turns off faucet
________9. Returns toothbrush to proper place

SAMPLE

RECEPTIVE VOCABULARY - FUNCTION OF TERM

Self-Help Skills

Developmental Step #1

Reinforcers:

Tangibles - M & M's, ice cream, cereal, juice, tokens

Verbal Praise - "Good boy (girl), (name of child)."

Materials:

Clothing appropriate to task, preferably a short-sleeved pull-over shirt.

Place:

Variable

Task:

To teach the child to put on his shirt

Procedure:

The instructor and child sit facing eachother.

1. The instructor pulls the child's shirttail up around the child's chest.
2. The instructor then tells the child to "Put your shirt on." (meaning to pull the shirttail down.)
3. If the child responds appropriately, the instructor reinforces him by saying, "Good girl (boy), you put your shirt on", and by giving edibles.
4. If the child fails to respond, the instructor grasps the child's hands and physically assists him in completing the task (pulling the shirttail down). Verbal praise should then be given, repeating "Good boy (girl), you put your shirt on".
5. The child is then instructed to perform the original task.

NOTE:

This sequential step should be repeated until the child can perform it unaided--pulling down the shirttail.

SAMPLE

RECEPTIVE VOCABULARY - FUNCTION OF TERM

Self-Help Skills

Developmental Step #2

Reinforcers:

Tangibles - M & M's, ice cream, cereal, juice, tokens.

Verbal Praise - "Good girl (boy), (name of child)."

Materials:
Clothing appropriate to task, preferably a short-sleeved pullover shirt.

Place:

Variable

Task:
To teach the child to put on his shirt

Procedure:
The instructor and child sit facing eachother.

1. The instructor pulls the child's shirttail up and removes one arm from the shirt.
2. The instructor then tells the child to "Put your shirt on," (meaning to put his arm in and pull the shirttail down).
3. If the child responds appropriately, the instructor reinforces him by saying, "Good boy (girl), you put your shirt on" and by giving edibles.
4. If the child fails to respond, the instructor grasps the child's hands and physically assists him in completing the task--putting his arm in and pulling the shirttail down. Verbal praise and edibles should then be given repeating, "Good boy (girl), you put your shirt on".
5. The child is then instructed to perform the original task.

NOTE:
This sequential step should be repeated until the child can perform it unaided--putting arm in the shirt and pulling down the shirttail.

SAMPLE

RECEPTIVE VOCABULARY - FUNCTION OF TERM

Self-Help Skills

Developmental Step #3

Reinforcers:

Tangibles - M & M's, ice cream, cereal, juice, tokens.

Verbal Praise - "Good girl (boy), (name of child)".

Materials:

Clothing appropriate to task, preferably a short-sleeved pull-over shirt

Place:

Variable

Task:

To teach the child to put on his shirt.

Procedure:

The instructor and child sit facing each other.

1. The instructor pulls up the child's shirt and removes both arms, leaving it loose around the neck.
2. The instructor then tells the child to "Put your shirt on", (meaning to put in both arms and pull the shirttail down).
3. If the child responds appropriately, the instructor reinforces him by saying, "Good boy (girl), you put your shirt on," and by giving edibles.
4. If the child fails to respond appropriately, the instructor grasps the child's hands and physically assists him in completing the task--putting both arms in and pulling down the shirttail. Verbal praise and edibles should then be given.
5. The child is then instructed to perform the original task.

NOTE:

This sequential task should be repeated until the child can perform it unaided--putting both arms in the shirt and pulling down the tail.

SAMPLE

RECEPTIVE VOCABULARY - FUNCTION OF TERM

Self-Help Skills

Developmental Step #4

Reinforcers:

Tangibles - M & M's, ice cream, cereal, juice, tokens.

Verbal Praise - "Good girl (boy), (name of child)."

Materials:

Clothing appropriate to task, preferably a short-sleeved pullover shirt.

Place:

Variable

Task:

To teach the child to put on his shirt

Procedure:

The instructor and child sit facing eachother.

1. The instructor partially removes the child's shirt so that the neck rests just below his eyes.
2. The instructor then tells the child to "Put your shirt on" (meaning to pull it down, place both arms in and pull the shirttail down).
3. If the child responds appropriately, the instructor reinforces him by saying, "Good boy (girl), you put your shirt on," and by giving edibles.
4. If the child fails to respond appropriately, the instructor grasps the child's hands and physically assists him in completing the task--pulling the shirt down, placing both arms in and pulling down the tail. Verbal praise and edibles should then be given, repeating "Good boy (girl), you put your shirt on".
5. The child is then instructed to perform the original task.

NOTE:

This sequential step should be repeated until the child can perform it unaided--pull the shirt down to his neck, place both arms in and pull down the shirttail.

SAMPLE

RECEPTIVE VOCABULARY - FUNCTION OF TERM

Self-Help Skills

Developmental Step #5

Reinforcers:

Tangibles - M & M's, ice cream, cereal, juice, tokens.

Verbal Praise - "Good girl (boy), (name of child)."

Materials:

Clothing appropriate to task, preferably a short-sleeved pullover shirt.

Place:

Variable.

Task:

To teach the child to put on his shirt.

Procedure:

The instructor and child sit facing each other.

1. The instructor completely removes the child's shirt.
2. The instructor gives the shirt to the child, telling him to "Put your shirt on", (meaning to perform the entire operation independently).
3. If the child responds appropriately, the instructor reinforces him by saying, "Good boy (girl), you put your shirt on", and by giving edibles.
4. If the child fails to respond appropriately, the instructor may then:
    A. Backtrack to the point of the last successful step.
    B. Give only enough prompting to the child in order for him to begin the sequence. Verbal praise and edibles should then be given, repeating, "Good boy (girl), you put your shirt on".

NOTE:

SYSTEMATIC APPROACH TO TOILET TRAINING THE SEVERELY AND PROFOUNDLY RETARDED

The teaching of bowel and bladder control to a residential retarded population involves a complex shaping procedure which must consider numerous physiological and social elements. The efforts required to programmers to implement training are strenuous. So strenuous, in fact, that many programs emphasize cleaning up or preventive scheduling rather than independent bowel and bladder maintenance. With staff time limitations in mind, several variations of a systematic procedure are offered, with staff free to chose the one which fits their schedule. Some possible approaches are outlined below:

1. A Natural Approach
    a. Child is placed on commode or potty, whichever he prefers, the following times: directly after each meal, at least once every hour.
    b. Child should remain on toilet for 15 minutes or until successful elimination occurs. Note: During first few sessions, read a book, blow bubbles, or do some other enjoyable activity for at least 5 minutes of the session.
    c. Child should be immediately reinforced for any success in elimination (B.M. or urination). If sessions produce no results for 15 minutes, remove child from toilet matter-of-factly, with no verbal accompaniment.
2. Natural Approach with Priming

    Essentially similar to #1 above, except large amounts of fluids are administered at frequent intervals to stimulate urinary activity and provide frequent training opportunities.

3. Punishment or Overcorrection

   Procedure #1 or #2 above is used with unpleasant clean-up activities or other punishing events as a consequence for bowel or bladder accidents.

4. Fox and Azrin Approach[1]

   Completely systematized approach which incorporates individualized training electric apparatus for signaling success or failure and the priming and punishment approaches mentioned above. This approach involves large amounts of staff time (8 hours per day per child in some instances) and an intense effort which promises quick results. Fox and Azrin are concerned with "complete" toilet training, which necessarily involves teaching a multitude of social skills and adaptive behaviors which surround the toileting process.

The choice of approach to fit an individual child's need will involve logistical considerations and an evaluation of the child's adaptability. Most normal children and many mild and moderately retarded children are trained easily using the "natural" approach cited above. However, with many severe and profound retardates it may be necessary to intensify and completely systematize the approach. Readings which may be helpful for the prospective toilet trainer are listed below:

Barrett, B. H., Behavior Modification in the Home--Parents Adopt Laboratory Developed Tactics to Bowel Train a 5 1/2-Year-old, Psychotherapy Theory, Research, and Practice, 1969, Vol. 6, pp. 172-176.

Baumeister, A. A., and Klosowski, R., An Attempt to Group Toilet Train Severely Retarded Patients, Mental Retardation, 1965, Vol. 3, pp. 24-26.

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[1] Fox, Richard and Azrin, Nathan, Toilet Training the Retarded, 1973, Champaign, Ill., Research Press.

Browning, R. M. and Stober, D. O., Behavior Modification in Child Treatment, Aldine, Atherton, Inc., 529 S. Wabash Corp., Chicago, Ill., 1971.

Ellis, N. R., Toilet Training the Severely Defective Patient: An S-R Reinforcement Analysis, American Journal of Mental Deficiency, 1963, Vol. 68, pp. 98-103.

Feriden, W. and VanHandel, D., Elimination of Soiling Behavior in an Elementary School Child Through the Application of Aversive Techniques, Journal of Child Psychology, 1973, Vol. 8, pp. 267-269.

Foxx, Richard and Azrin, Nathan, Toilet Training the Retarded, 1973, Champaign, Ill., Research Press.

Giles, D. K. and Wolf, M. M., Toilet Training Institutionalized Severe Retardates: An Application of Operant Behavior Modification Techniques, American Journal of Mental Deficiency, 1966, Vol. 70, pg. 766.

Larsen, L. A. and Bricker, W. A., A Manual for Parents and Teachers of Severely and Moderately Retarded Children, Institute on Mental Retardation Intellectual Development, Peabody College, Nashville, Tenn.

McIntire, R. W., For Love of Children, Behavioral Psychology for Parents, CRM Books, Delmar, California, 1970.

Tomlinson, J. R., Treatment of Bowel Retention by Operant Procedures: A Case Study, Journal of Behavior Therapy and Experimental Psychiatry, 1970, Vol. 1, pp. 83-85.

VanWagenen, R. K., Meyerson, L., Kerr, N. J., and Mahoney, K., Field Trials of a New Procedure for Toilet Training, Journal of Experimental Child Psychology, 1969.

CONCEPT DEVELOPMENT

The Conceptual Receptive Vocabulary section of the Program is designed to teach the child various language concepts. Included in this portion are spatial relations or prepositions, select action verbs, basic colors, simple geometric shapes and number concepts 1-3. These five categories were selected because they appear to be meaningful and functional for the severely retarded population. When these introductory concepts are mastered, the child will hopefully become more capable in completing domestic tasks, i.e., "Put the dishes on the cart," and in following simple commands, i.e., "Bring me two shirts." Further, it is envisioned that the individual himself will better realize and adapt to his everyday environment in terms of object-shape manipulations in space and time. A conceptual term will be considered mastered when the individual can demonstrate a functional knowledge of the concept in the presence of an auditory cue.

Teaching, for most of the concepts, employs the items learned in Levels I and II of the Receptive Vocabulary portion, in addition to utilization of concrete objects (dishes, clothing), edibles, colored squares and puzzle pieces. Generally, the presentation will adhere to the format or strategies of Introduction, Match to Sample and Discrimination. Some of the tasks are similar to earlier motor imitation levels, except that as learning is being achieved, the visual cues, expressive emphasis and physical prompts are faded.

The Conceptual Developmental stage does not terminate with a mastery of these five areas. As the Program lattice expands to encompass more developmental steps, concepts including advanced body parts, common nouns, associations (bed-blanket), motor expressive (toothbrush-brushing teeth) can be systematically introduced into the learning situation.

CONCEPTS

Prepositions

in
on
behind

Verbs

eat
drink
wash
sit down
stand up

Colors

green
red
blue

Shapes

circle
square
triangle

Numbers

1-3

PREPOSITIONS

Prepositions serve as important parts for phrase indicators and cognitive functioning in respect to space relations. The ones included for teaching are in, on and behind. These seem to be prepositions that the child has numerous contacts with both in following directions and performing daily operations. In and on were selected primarily on the basis of their practicality for improving chore responsibilities, i.e., "Put your spoon on your plate and then in the cart." Behind was added because of its importance in a structured situation such as standing prior to mealtime. The teaching steps will present the prepositions in the established format of the previous learning strategies.

SAMPLE

Prepositions - Introduction

Developmental Step #1 - 3

Reinforcers:

M & M's, ice cream, cereal, juice
Social reinforcers
Verbal praise - "Good boy (girl), (name of child),"

Materials:

Concrete objects from Levels I and II of Receptive Vocabulary.
Colored pictures of concrete objects in a spatial relation.

Place:

Unit classroom

Task:

To familiarize the child with the prepositions in, on, behind.

Procedure:

Two categorically similar objects (spoon, glass) are placed in front of the child.

1) The instructor picks up an object and places it in an appropriate prepositional relation saying, "The _____ is _____ the _____."

2) The instructor then places the objects in front of the child saying, "Show me the _____ _____ the _____," emphasizing the prepositional relation.

3) If the child points to, picks up or touches the object, the instructor reinforces by saying, "Good boy (girl)," and by giving edibles.

4) If the child does none of the above, the instructor repeats the instruction, "Show me the _____ _____ the _____," and places the child's hand on the object, reinforcing this behavior.

5) The procedure is followed for each of the prepositions (in, on).

NOTE:

The preposition behind is introduced by the instructor's continual expressive emphasis when the child enters and/or leaves the classroom ("Stand behind your chair"), and in diningroom situations. Use of colored pictures depicting objects in a spatial relation will assist in the introduction phase.

SAMPLE

Preposition - Match to Sample

Developmental Step #1 - 3

Reinforcers:

M & M's, ice cream, cereal, juice
Social reinforcers
Verbal praise - "Good boy (girl), (name of child."

Materials:

Concrete objects from Levels I and II of receptive vocabulary.
Colored pictures of concrete objects in a spatial relation.

Place:

Unit classroom

Task:

To teach the child to match objects (imitate) using the prepositions in, on, behind.

Procedure:

Two categorically similar objects (spoon, glass) are placed in front of the child as well as the instructor.

1) The instructor picks up an object and places it in an appropriate prepositional relation saying, "The _____ is _____ the _____," emphasizing the prepositional relation.

2) The instructor then asks the child to perform the task saying, "Put the _____ _____ the _____," emphasizing the preposition and using a hand gesture.

3) If the child performs the operation the instructor reinforces him verbally and with edibles saying, "The _____ is _____ the _____."

4) If the child is incorrect or makes no response, the instructor assists the child physically in performing the task, saying, "The _____ is _____ the _____," emphasizing the preposition and reinforcing the child's behavior.

5) The child is then instructed to repeat the operation.

6) The procedure is followed for each of the prepositions (in, on).

NOTE: Initially, two categorically similar objects are used in the matching process. The objects may be increased and the prepositional relations interchanged (spoon in glass, knife and fork on plate) as successful matching and receptive vocabulary learning is achieved. The preposition behind is demonstrated by the instructor with expressive emphasis (stand behind your chair) as the child leaves the classroom situation. This relation can be tested and reinforced in other daily settings.

SAMPLE

Prepositions - Discrimination

Developmental Step #1 - 3

Reinforcers:

M & M's, ice cream, cereal, juice
Social reinforcers
Verbal praise - "Good boy (girl), (name of child)."

Materials:

Concrete objects from Levels I and II of Receptive Vocabulary.
Colored pictures of concrete objects in a spatial relation.

Place:

Unit classroom

Task:

To teach the child to differentiate between the prepositions in and on.

Procedure:

Four categorically similar objects (spoon, glass, knife, plate) are placed in front of the child in an appropriate prepositional relation. (in, on).

1) The instructor picks up each of the objects saying, "The _____ is in the _____," and "The _____ is on the _____," emphasizing the preposition.

2) The instructor then asks the child to identify a prepositional relation by saying, "Show me the _____ in the _____," or "Show me the _____ on the _____," emphasizing the preposition.

3) If the child is correct the instructor reinforces him verbally and with edibles saying, "The _____ is in (on) the _____," emphasizing the preposition.

4) If the child is incorrect or makes no response, the instructor points to the objects repeating, "The _____ is in the _____," and "The _____ is on the _____," emphasizing the prepositional relations.

5) The child is then instructed to perform the original task.

NOTE: Initially, similar objects should not be paired (spoon in glass, spoon on plate) because the child may differentiate between receptive vocabulary terms in lieu of the prepositional relation. As learning is successful, these finer discriminating tasks can be employed.

ACTION VERBS

Receptive learning and task performances of functional verbs is considered fundamental to Program advancement. To form an expressive two-word combination in later syntactic development, select pivot class words or verbs must be mastered at this level. Initially, the ones chosen are eat, drink, and wash. The child will become acquainted with a verb through its inclusion in structured learning situations and daily settings. Eat and drink were selected because of their stimulus value and immediate reinforcement at mealtime situations. Wash was included due to its applicability in everyday functioning. A teaching strategy will introduce the verbs in the present tense, in conjunction with edible reinforcers, receptive vocabulary terms and/or body parts.

Two verb phrases are also incorporated for instruction: "sit down" and "stand up." These constructions are important in that the child has familiarity with them in structured situations, and they can serve as starting points for increased socialization and compliance following auditory commands.

SAMPLE

Verb (eat) - Introduction

Developmental Step #1

Reinforcers:

Edibles to be consumed
Social reinforcers
Verbal praise - "Good boy (girl), (name of child)."

Materials:

Edibles, M & M's, ice cream, cereal, cookies, toast

Place:

Unit classroom

Task:

To introduce the child to the present tense verb form of eat.

Procedure:

An edible is placed before the child.

1) The instructor picks up the edible saying, "This is ________. We eat ________," emphasizing the verb and using a physical hand-to-mouth gesture.

2) The instructor then places the edible in front of the child saying, "You eat ____," emphasizing the verb.

3) When the child consumes the edible, the instructor reinforces him verbally and emphasizes the verb saying, "You eat ______."

4) The procedure is followed for each of the edibles.

NOTE:

Selection of highly reinforcing edibles for the child is important.

SAMPLE

Verb (drink) - Introduction

Developmental Step #1

Reinforcers:

Liquids to be consumed
Social reinforcers
Verbal praise - "Good boy (girl), (name of child)."

Materials:

Liquids, juices, water, milk, small dispensing cups

Place:

Unit classroom

Task:

To introduce the child to the present tense verb form of drink.

Procedure:

A glass of liquid is placed before the child.

1) The instructor picks up the glass of liquid saying, "This is _____. We drink _____," emphasizing the verb and using a physical hand-to-mouth gesture.

2) The instructor then places the liquid in front of the child saying, "You drink _____," emphasizing the verb.

3) When the child consumes the liquid, the instructor reinforces him verbally and emphasizes the verb saying, "You drink _____."

4) The procedure is followed for each of the liquids.

NOTE:

Selection of highly reinforcing liquids for the child is important.

SAMPLE

Verbs (eat, drink) - Discrimination

Developmental Steps #1 and #2

Reinforcers:

Edibles and liquids to be consumed
Social reinforcers
Verbal praise - "Good boy (girl), (name of child)."

Materials:

Edibles-M & M's, ice cream, cereal, cookies, toast.
Liquids-juices, water, milk.
Colored pictures of people depicting action activities.

Place:

Unit classroom

Task:

To teach the child to differentiate between the present tense forms of eat and drink.

Procedure:

1) The instructor picks up each item saying, "We eat _____" and "We drink _____," emphasizing the verbs.
2) The instructor then asks the child to perform an activity by saying, "You eat _____" or "You drink _____," emphasizing the verbs.
3) If the child performs the desired task, the instructor reinforces him verbally and says, "You eat (drink) _____."
4) If the child is incorrect, the instructor picks up each item repeating, "We eat _____" and "We drink _____."
5) The instructor then asks the child to perform the original task.
6) The procedure is followed for each of the edibles and liquids.

NOTE:

Selection of highly reinforcing liquids and edibles is important. More than one edible or liquid should not be paired with others because then the task may become a discrimination between two liquids and/or edibles instead of the verb forms.

SAMPLE

Verb - Wash

Developmental Step #1

Reinforcers:

M & M's, ice cream, cereal, juice
Social reinforcers
Verbal praise - "Good boy (girl), (name of child)."

Materials:

Classroom sink including soap and towels.

Place:

The sink in the unit classroom.

Task:

To teach the child the present tense verb form of wash using the procedure for hand washing.

Procedure:

The instructor and child stand at the sink.

1) The instructor performs the activity of hand washing, verbalizing the procedure and saying, "We wash our hands," emphasizing the verb.
2) The instructor then takes the child's hands, physically manipulating them and verbalizing the procedure saying, "You wash your hands," emphasizing the verb.
3) The child is then instructed to carry out the activity following the instruction, "You wash your hands."
4) If the child performs the activity, the instructor reinforces him verbally and tangibly saying, "You wash your hands," emphasizing the verb.
5) If the child does not perform the activity, the instructor physically manipulates his hands repeating, "You wash your hands."

NOTE:

Backward chaining will play an important role in the task. The child may have to be assisted in procedural steps until he can successfully complete an operation following the auditory command. The command to wash other body parts can be included in appropriate instances and/or situations.

SAMPLE

Verb Phrases - "Sit down"
"Stand up"

Developmental Step #1 and #2

Reinforcers:

Edibles and/or liquids
Social reinforcers
Verbal praise - "Good boy (girl), (name of child)."

Materials:

Table, chair

Place:

Unit classroom

Task:

To teach the child the present tense form of the verb phrases sit down and stand up.

Procedure:

1) The instructor performs each task saying, "We sit down" and "We stand up," emphasizing the verb phrase and using hand gestures.

2) The instructor then asks the child to perform an activity by saying, "You sit down" or "You stand up," emphasizing the verb phrase.

3) If the child performs the desired task, the instructor reinforces him verbally and says, "You sit down (stand up)."

4) If the child is incorrect or makes no response, the instructor performs each task repeating, "We sit down" and "We stand up."

5) The instructor then asks the child to perform the original task, reinforcing the appropriate response.

NOTE:

COLORS

Three basic colors have been designated: *green*, *red*, *blue*. In previous motor imitations the child was introduced to these shades through use of color coded puzzles and instructional activities. These colors correspond to the geometric shapes (circle, square, triangle, respectively) in the next conceptual area, and mastery of the colors in this section will hopefully facilitate in the shape learning. The teaching will utilize the strategies of Introduction, Match to Sample and Discrimination, plus the use of colored edibles, clothing and pictures. As each color is stabilized, combinations with the other ones may be implemented for further learning and testing.

SAMPLE

Colors - Introduction

Developmental Step #1 - 3

Reinforcers:

M & M's, ice cream, cereal, juice
Social reinforcers
Verbal praise - "Good boy (girl), (name of child)."

Materials:
Colored cards of green, red, blue
Articles of clothing and/or objects with the respective colors
Edibles of the respective colors

Place:

Unit classroom

Task:
To introduce the child to the colors green, red, blue.

Procedure:

One color card is placed before the resident.

1) The instructor picks up the color card and places it on the table saying, "This color is _____."

2) The instructor then places the card in front of the child saying, "Show me the color _____."

3) If the child responds appropriately, the instructor reinforces by saying, "Good boy (girl), this is _____," and by giving edibles.

4) If the child makes no response, the instructor repeats the instruction, "Show me the color _____," and places the child's hand on the card, reinforcing this behavior.

5) The procedure is followed for each of the colors.

NOTE:
The three colors are presented singly to the child. Articles of clothing, objects or pictures with the respective color may be used for the introduction process.

SAMPLE

Colors - Match to Sample

Developmental Step #1 - 3

Reinforcers:

M & M's, ice cream, cereal, juice
Social reinforcers
Verbal praise - "Good boy (girl), (name of child)."

Materials:

Colored cards of green, red, blue
Articles of clothing and/or objects with the respective colors
Edibles of the respective colors

Place:

Unit classroom

Task:

To teach the child to identify the colors green, red, blue in the presence of the same color and later in the presence of different ones.

Procedure:

1) The instructor places a color card in front of the child as well as himself, saying each time, "This color is _____."

2) The instructor then instructs the child by saying, "Show me the color _____."

3) If the child responds appropriately, the instructor reinforces him by saying, "Good boy (girl), this color is _____," and by giving edibles.

4) The instructor then places another color card next to the original one saying, "This color is _____."

5) The child is then instructed to identify the original color card using the visual sample and the instruction, "Show me the color _____."

6) The procedure is followed for each of the three colors.

NOTE:

Use of colored reinforcing edibles (M & M's, cereals) and corresponding articles of clothing may assist in the learning as expressive parallel comparisons are made.

SAMPLE

Colors - Discrimination

Developmental Step #1 - 3

Reinforcers:

M & M's, ice cream, cereal, juice
Social reinforcers
Verbal praise - "Good boy (girl), (name of child)."

Materials:

Colored cards of green, red, blue
Articles of clothing and/or objects with the respective colors
Edibles of the respective colors

Place:

Unit classroom

Task:

To teach the child to identify the colors green, red, blue paired with one or more different colors.

Procedure:

Two different color cards are placed before the child.

1) The instructor picks up each card and names it by saying, "This color is _____," and "This color is _____."

2) The instructor then asks the child to identify one of the colors by saying, "Show me the color _____."

3) If the child responds appropriately, the instructor reinforces him by saying "Good boy (girl), this color is _____," and by giving edibles.

4) If the child is incorrect or makes no response, the instructor physically assists the child in identifying the color repeating, "This color is _____."

5) The child is then instructed to perform the original discrimination.

NOTE:

Use of colored reinforcing edibles (M & M's, cereal) may be employed for learning as the child is instructed to select the edible paralleling the color discriminated.

SHAPES

The objective of this section is for the child to be able to distinguish successfully between three shapes. The three shapes are circle, square and triangle. These have been previously introduced to the child in the section of motor imitation and through the use of instructional materials designed to be used with the Play Skool Chip Holder.

The use of uncolored wooden shape puzzles may be incorporated into this teaching task. The child is given a shape puzzle. The instructor gives the child one of each of the three shapes and instructs the child to put in either circle, square or triangle.

The three shapes may also be traced on separate pieces of paper. The three pieces are placed in front of the child and the instructor has the child put the appropriate shape on the corresponding piece of paper.

If the child has not mastered total discrimination, the instructor may point to the desired shape traced on the paper. The child must then match one of his shapes to the one indicated by the instructor.

A match-to-sample technique would require the child to match one of his shapes to whichever shape the instructor presents to him.

SAMPLE

Shapes - Introduction

Two Identical Shapes

Developmental Step #1

Reinforcers:

M & M's, ice cream, cereal, juice
Social reinforcers
Verbal praise - "Good boy, (girl), (name of child)."

Materials:

One play Skool Chip Holder filled with appropriate shapes.

Place:

Unit classroom

Task:

To introduce the child to the shapes circle, square, triangle

Procedure:

Two identical shapes are placed before the child.

1) The instructor picks up each shape and places it on the table saying, "This is a _____."

2) The instructor then places the shapes in front of the child saying, "Show me the _____."

3) If the child responds appropriately to either or both of the shapes, the instructor reinforces by saying, "Good boy (girl). This is a _____," and by giving edibles.

4) If the child does not respond appropriately, the instructor repeats the instruction, "Show me _____," and places the child's hand on the shape reinforcing this behavior.

NOTE:

The three shapes are presented singly to the child beginning with the circle, before dontinuing to developmental step #2.

SAMPLE

Shapes - Discrimination #1
Two Identical and One Dissimilar Shape

Developmental Step #2

Reinforcers:

M & M's, ice cream, cereal, juice
Social reinforcers
Verbal praise - "Good girl, (boy), (name of child)."

Materials:

One Play Skool Chip Holder filled with appropriate shapes.

Place:

Unit classroom

Task:

To teach the child to identify the shapes circle, square, triangle when two identical shapes are presented with a dissimilar one.

Procedure:

Two identical shapes and a dissimilar one are placed before the child.

1) The instructor indicates each of the two like shapes saying, "This is a _____." and to the odd shape saying "This is a _____."

2) The instructor then asks the child to identify one or both of the like shapes by saying, "Show me the _____."

3) If the child responds appropriately, the instructor reinforces him by saying, "Good boy (girl), this is a _____," and by giving edibles.

4) If the child is incorrect or makes no response, the instructor physically assists the child in identifying the shape, repeating "This is a _____."

5) The child is then instructed to perform the original discrimination.

NOTE:

This technique is used for the initial discrimination of all three shapes before continuing to step #3.

SAMPLE

Shapes - Discrimination #2

Two or More Different Shapes

Developmental Step #3

Reinforcers:

M & M's, ice cream, cereal, juice
Social reinforcers
Verbal praise - "Good boy (girl), (name of child)."

Materials:

One Play Skool Chip Holder filled with appropriate shapes.

Place:

Unit classroom

Task:

To teach the child to identify the shapes circle, square and triangle when paired with one or more different shapes.

Procedure:

Two or more different shapes are placed before the child.

1) The instructor picks up each shape and names it by saying, "This is a _____ and this is a _____."

2) The instructor then asks the child to identify each of the shapes by saying, "Show me the _____."

3) If the child responds appropriately, the instructor reinforces him by saying, "Good boy (girl), this is a _____," and by giving edibles.

4) If the child is incorrect or makes no response, the instructor physically assists the child in identifying the shape repeating, "This is a _____."

5) The child is then instructed to perform the original discrimination.

NOTE:

NUMBERS 1 - 3

A basic understanding of primary numbers will enable the retarded individual to complete situational tasks and perform responsible operations satisfactorily. The three numbers decided upon appear to be beneficial for learning and within the realm of mastery for the child. In addition to edible reinforcers, a strategy will employ similar objects, chips and/or puzzle shapes.

SAMPLE

Numbers 1, 2, 3 - Introduction

Developmental Step #1 - 3

Reinforcers:

M & M's, ice cream, cereal, juice
Social reinforcers
Verbal praise - "Good boy (girl), (name of child)."

Materials:

Edibles, chips, similar objects

Place:

Unit classroom

Task:

To introduce the child to the numbers 1, 2, 3.

Procedure:

Edibles, chips, or similar objects are placed on the table.

1) The instructor selects a certain number of items saying, "This is _____ (item)," emphasizing the number relation.

2) The instructor then places the items in front of the child saying, "Show me (Take) _____," emphasizing the number.

3) If the child responds appropriately, the instructor reinforces him verbally and with edibles saying, "Good boy (girl), this is _____ (item)," emphasizing the number.

4) If the child makes no response, the instructor assists him physically in performing the operation repeating, "This is _____, show me (take) _____."

5) The procedure is followed for each of the number relations.

NOTE:

Use of fingers and counting cards may aid in the introduction in combination with a like number of edible reinforcers.

SAMPLE

Numbers 1, 2, 3 - Discrimination

Developmental Step #1 - 3

Reinforcers:

M & M's, ice cream, cereal, juice
Social reinforcers
Verbal praise - "Good boy (girl), (name of child)."

Materials:

Edibles, chips, similar objects

Place:

Unit classroom

Task:

To teach the child to differentiate between the number relation 1, 2, 3.

Procedure:

Edibles, chips or similar objects are placed on the table in a number relation.

1) The instructor selects each group of items and indicates them by saying, "This is _____ (item)," emphasizing the number relation.
2) The instructor then asks the child to identify a group of items saying, "Show me (Take) _____," emphasizing the number relation.
3) If the child responds appropriately, the instructor reinforces him verbally and with edibles saying, "This is _____ (item)," emphasizing the number relation.
4) If the child is incorrect, the instructor indicates each group of items repeating, "This is _____ (item)."
5) The child is then instructed to perform the original discrimination.

NOTE:

As discrimination success is obtained, further learning may be fostered by allowing the child to choose a select number of edible reinforcers.

CONCEPT DEVELOPMENT - GROUP ACTIVITIES

These developmental steps are proposed as adjunct activities in the Concept Development area. They allow the trainer to work with larger groups of children and can be likened to more traditional early elementary gym class activities. Social reinforcement and occasional tangible rewards can be employed.

CONCEPT DEVELOPMENT - GROUP ACTIVITIES

Developmental Step #1

Reinforcers: Tangibles - M & M's, ice cream, cereal, juice, tokens, verbal praise: "Good boy (girl) (name of child)."

Materials: Hula Hoops

Place: Variable

Task: To implement learning of the prepositions in and out.

Procedure: Have the child stand in front of the hoop.

The instructor asks the child to:
1. Step in the hoop.
2. Step out of the hoop.

The instructor demonstrates these moves to the child as he gives the verbal "Step in" and "Step out".

The instructor gives the child physical assistance in performing these moves if required.

The instructor reinforces the child with edibles and/or tokens and praise upon completion of the motor imitation.

Adaptations:
1. One foot in -
2. Two feet in -
3. One foot out -
4. Two feet out -
5. Jump in -
6. Jump out -

NOTE:

CONCEPT DEVELOPMENT - GROUP ACTIVITIES

Developmental Step #2

Reinforcers: Tangibles: M & M's, ice cream, cereal, juice, tokens, verbal praise - "Good boy (girl) (name of child)".

Materials: Low stool or step.

Place: Variable.

Task: To implement learning of prepositions up and down.

Procedure: The instructor asks the child to "Step up" on the stool, "Step down off the stool".

The instructor demonstrates these moves to the child as he gives the verbal instructions "Step up" and "Step down".

The instructor gives the child physical assistance in performing these operations if necessary.

The instructor reinforces the child with edibles and/or tokens and praise upon completion of the motor imitation.

NOTE: This task should be repeated until the child can consistently perform the operations involving up and down without assistance or imitation. May also use "jump" in place of "step".

Developmental Step #3

Reinforcers: Tangibles - M & M's, ice cream, cereal, juice, tokens, verbal praise - "Good Boy (girl) (name of child)".

Materials: 3 - 1'/1' squares cut from construction paper; colors blue, red and green, to be affixed to wall 8 - 16" apart.

Place: Variable.

Task: To implement learning of colors green, red, and blue.

Procedure: As the child faces the three squares, the instructor asks him to "Touch red", "Touch blue", or "Touch green".

Physical assistance, additional directions and demonstration of the task may be given to aid the child.

Upon an appropriate response, the instructor gives the child verbal praise, edible reinforcement and/or tokens.

Adaptations:
1. Using appropriately colored boxes, the instructor has the child toss a ball into the red, green, or blue box.
2. Balance - Beams, tires,and chairs may be placed between colored squares on floor to form an obstacle course to each color.
3. The child may toss a ball at appropriate squares placed on the wall.

NOTE:

Developmental Step #4

Reinforcers: Tangibles - M & M's, ice cream, cereal, juice, tokens, verbal praise - "Good Boy" (girl) (name of child)."

Materials: Large circle, square and triangle in colors green, red and blue affixed to wall 8" to 16" apart at reasonable height.

Place: Variable.

Task: To implement learning of shapes, circle, square and triangle.

Procedure: As the child faces the three shapes, the instructor asks him to "Touch the 'blue triangle', 'red square', 'green circle'".

Physical assistance, additional directions and demonstration of the task may be given to aid the child.

Upon an appropriate response the instructor gives the child verbal praise, edible reinforcement and/or tokens.

Adaptations:
Identical to those given in Development Step #3.

NOTE: Any or all of these activities may be used in a group or team situation incorporating team points or time limits in an attempt to heighten competitive awareness and add additional reinforcing properties to these activities.

CONCEPT DEVELOPMENT - GROUP ACTIVITIES

Developmental Step #5

Reinforcers: Tangibles - M & M's, ice cream, cereal, juice, tokens.
Verbal praise - "Good Boy (girl) (name of child)."

Materials: Small bean bags, appropriately colored boxes - red, blue, green.

Place: Variable.

Task: To implement learning of numbers 1, 2 and 3; and colors green, red, blue.

Procedure: As the child faces the three appropriately colored boxes, the instructor asks the child to "Toss 1, 2 or 3 bean bags in the red, blue, or green box".

Physical assistance, additional directions and demonstration of task may be given as an aid to the child.

If appropriate, reinforcers (edibles) may follow the correct response. This would be dependent upon the level of the child and whether or not these activities were being carried out individually or in teams.

NOTE:

ADVANCED MOTOR IMITATION - FINE MOTOR SKILLS

These developmental steps are included to give the trainer a few ideas of some simple tasks orienting the child to fine motor activities. In addition to these, there are sources listed in the bibliography where more comprehensive information on advanced motor development can be obtained.

ADVANCED MOTOR IMITATION - FINE MOTOR SKILLS

OBJECT TRANSFER

Developmental Step #1

Reinforcers: Tokens
Edibles: cereal, M & M's, ice cream, juice
Social praise

Materials: Walnuts (or similar objects)
Nut tongs
two bowls

Place: Variable

Task: The goal of this developmental step is to teach the child to transfer a group of objects from one bowl to another by using the appropriate utensil (nut tongs). This kind of activity lends itself to the development of fine motor coordination.

Procedure:

1. The trainer demonstrates the behavior: transferring nuts from one bowl to the other using the tongs.
2. The trainer then indicates to the child, "You do it", and gives the utensil to the child.
3. Physical assistance should be given when needed, but faded as soon as possible.

NOTE: Spoons or other utensils which can practically accomplish the task can and should be substituted. This kind of activity lends itself to a game setup and also can be used with groups of children.

ADVANCED MOTOR IMITATION - FINE MOTOR SKILLS

CUTTING

Developmental Step #2

Reinforcers: Tokens, edibles; cereal, candy, ice cream, juice social praise.

Materials: Paper, scissors (both regular primary scissors and the commercially available "teaching scissors")*

Place: Variable

Task:

Procedure:

The goal of this adjunctive developmental step is to teach the child to cut with a pair of scissors. To facilitate the teaching of the task, the first step is to use "teaching scissors" which have finger holes for both child and trainer. In this manner the trainer can guide the child and shape the behavior and eventually fade out the physical assistance.

1. The trainer demonstrates the use of the scissors to the child, i.e., cuts some paper.
2. The trainer then places both the child's fingers and his (the trainer's) fingers in the teaching scissors and verbalizes, "Cut the paper, see, we have cut the paper".
3. Once the trainer sees the child is beginning to master the cutting behavior, he can begin to fade out, or move his fingers gradually from the scissors and let the child cut independently. The instruction can continue to include cutting shapes, straight lines, etc.

NOTE: The "teaching scissors" come with two sets of finger slots and thus it is possible for the trainer to literally "shape" the motor behavior and lend assistance in this fine motor behavior.

ADVANCED MOTOR IMITATION - FINE MOTOR SKILLS

POURING WATER

Developmental Step #3

Reinforcers: Tokens
Edibles: cereal, M & M's, ice cream, juice
Social Praise

Materials: Two plastic cups
Sand and water table (or sink)

Place: Variable

Task: The goal in this developmental step is to teach the child to pour water from one cup to the other, without the loss of any liquid.

Procedure:

1. The instructor partially fills one glass with water.
2. The instructor demonstrates by saying, "look, see me pour the water; now you do it."
3. The child is to duplicate the behavior. (Instruction may begin by physically aiding the child in the sequence, gradually withdrawing assistance).

NOTE: It may be advisable to begin this kind of activity with larger plastic containers with wide mouths to insure success. A variation of the above might be the child dispensing juice for the instructor and himself during a "snack time" during the session. Social praise should be sufficient most of the time.

ADVANCED MOTOR IMITATION - FINE MOTOR SKILLS

PASTING

Developmental Step #4

Reinforcers: Tokens, edibles; cereal, candy, ice cream, juice, social praise.

Materials:
Paper (pieces as well as whole sheets)
Glue (preferably edible)

Place: Variable

Task: The goal of this developmental step is simply to have the child learn to paste one sheet or piece of paper on to another one. While the directions are not specific, the child will essentially be learning by imitating, so there is the ever-present need for the trainer to verbalize.

Procedure:

1. The trainer demonstrates putting paste on a piece of paper and then sticking it to another, larger sheet of paper. During this the trainer saye "See, I am pasting the papers together".
2. The trainer gives a piece of paper, with glue on it and says, "Here, you paste the paper on" and assists the child in pasting.
3. The trainer then allows and assists the child in putting paste on a sheet of paper and to continue the pasting sequence.

NOTE: Edible paste should be used as children are prone to eating that kind of stuff! Social praise should be used a great deal in lieu of tangibles.

ADVANCED MOTOR IMITATION - FINE MOTOR SKILLS

COLORING

Developmental Step #5

Reinforcers: Tokens, edibles; cereal, M & M's, ice cream, juice, social praise.

Materials: Crayons, paper

Place: Variable

Task: The goal of this particular developmental step is to introduce the child to crayons, paper and coloring. We are trying to shape simple drawing behavior. By definition this would consist of: holding the crayon, making a mark or marks on the paper and in time, staying on the paper and within various lines.

Procedure:

1. The trainer demonstrates (scribbling) to the child.
2. As the trainer places a crayon in the child's hand he says, "Now you color, like this, see?", and assists the child in making a mark on the paper.
3. As the child assumes more independent use of the crayon, the trainer fades his physical prompt and allows the child to color alone.

NOTE: Certainly the range of the definition of "coloring" is potentially a broad one. The intent here is to expose the child to crayons and reward him for making marks on paper. This leaves modification and development of further skills up to the discretion of each individual trainer. A behavior like coloring may be rewarding in itself and therefore there may not be need for many tangible reinforcers.

VERBAL IMITIATION

This area deals with speech production. Within a population of retarded individuals this may vary on a continum from an audible grunt to intelligible, syntactically correct phrases and sentences. Intermediate steps often include attempts at isolated sounds, stereotyped utterances, misarticulations, and echolalic speech. The area of intelligible speech production is more abstract than motor imitations, self-help skill learning, and receptive vocabulary and conceptual development mastery. Therefore, it cannot be measured in the usual means. Without the pre-post tests and checklists, the speaker's intelligibility can only be ascertained by the listener's own perception of what he hears. In teaching, the trainer must decide for himself which of the child's speech attempts he will accept as being understandable. The child's mental and physical limitations will most often determine the level of intelligibility to be accepted. Professional teachers and speech pathologists may strive to work for the child's best production and set higher expectations, but verbal imitations need not be terminated if the child cannot succeed at a designated level. Day care instructors, parents, and attendant staff may come to some general consensus with respect to their teaching methods and acceptability levels.

Researchers have dealt with the means for achieving oral language production in severely mentally retarded. Generally the studies agree that this aim can be accomplished by imitation of a model (Bricker and Bricker, 1966; Risley, 1966; Baer, Peterson and Sherman, 1967; Bricker and Bricker, 1970). The child is presented with a verbal model and is subsequently reinforced as his productions approximate the stimulus (McReynolds, 1969). Initially imitation may necessitate the use of physical prompts combining tongue and lip placements, plus a discriminating stimulus such as

"Do this", or "Say______________". When a child is able to achieve the desired imitative task, physical assistance and prompts can be faded.

In conjunction with imitation, the technique of shaping is a useful teaching device. If a child is experiencing difficulty in performing the imitative cue, he can be reinforced appropriately as his successive behavioral responses approximate the learning task.

Modeling should be continued until the child is able to achieve some performance success following the trainer's auditory command, and until the designated level of acceptability is easily obtained.

Many children, especially the institutionalized severely retarded, lack the mental and physical means for oral productions. Verbal imitations must sometimes be directed toward obtaining any sort of utterance, and an isolated vowel, or combination, may occasionally have to serve as an acceptable attempt. For these children an introductory program has been devised (Program I). Eight basic words were selected for teaching and hopefully the child can master them or some acceptable approximation thereof. The terms appear to be meaningful, and if added to an appropriate gesture, will help the child to function in a communicative manner.

A more advanced format (Program II) may be employed for higher level children. Initially it provides a means for teaching two-word utterances in a "pivot-open" class structure (Braine, 1963; Brown and Fraser, 1964; Lee, 1966; McNeill, 1966). These authors support that normal children developing language combine single words having concrete meanings with function words taken from their experiences. This forms a basic sentence. The method was chosen for these children because it allows for simple expressive vocabulary words, which the child can be instructed to produce, to be expanded into meaningful two-word combinations. Within the open classes the child is taught to name categories of clothing, food, toys, furniture, and other appropriate items. The productions would then be increased to name pivot class words or noun modifiers (the, more, big), possessive forms (my, your, me), locators (there, here), demonstrators (this, that, these), identifiers (it, that) simple verb forms (go, see, walk, eat). As the child is shaped to produce the two utterances, the final verbal sequence would be a two-word combination (big car, can go, my shirt, this spoon, go bathroom). This program offers great variability. Familiar environmental words should be the open class ones selected initially, with the list later to include situational experiences. The pivot class words may be expanded, or limited, to the ones the child can master. Hopefully, the child can be taught to produce some acceptable and intelligible two or three-word verbal combinations. A more detailed description of each program, plus sample teaching methods, is included at the end of this area.

The program sections under Page one of the Developmental Lattice of the Language Development-Perceptual Motor Training Program have been written. Further completion of the Lattice would not really serve the needs of the severely or profoundly retarded population at this time. Hopefully, the materials provided will be enlarged upon and new innovative teaching ideas will emerge. Educators are encouraged to modify these areas and design them for higher functioning children, trainable, or educable classrooms. The included bibliography and list of sensory motor materials may give some assistance in this regard.

PROGRAM I

Words:
eat
out
bye
hi
no
please
yes (yea)
bathroom (potty)

These terms were selected for the low functioning retarded who physiologically may lack the means for further verbal advancement. The words denote some basic bodily needs and socializations. If the child cannot master them intelligibly, or produce an acceptable approximation, appropriate gestures and signaling should be combined with the speech attempt. The list may be expanded for individual capabilities.

Prior to any speech production, the child may need some instruction in imitative tongue placements and/or physical prompts. The words are ranked according to facilitative vowel-consonant (VC) and consonant-vowel (CV) combinations. Teaching will utilize a model preceded by an S^D ("Say______"). The words (VC or CV) should be modeled by a prolonged production of each of the two sounds, if possible, and thus maximize the child's auditory perception of the production. Following this the child is instructed to imitate, and is reinforced socially and with edibles (tokens) as the attempts approximate the desired response. When the child is able to produce the sounds adequately, the model articulates the complete word, and requests the child to do likewise. Polysyllabic words are produced in the same manner.

PROGRAM I

Developmental Step #1 - 8, plus additional words

Reinforcers:

Tangibles - M & M's, ice cream, cereal, juice, tokens
Social reinforcers
Verbal Praise - "Good boy (girl), (name of child)"

Materials:

Tongue depressors, mirror, tokens, concrete objects where appropriate, pictures of objects

Place:

Unit classroom

Task:

To teach the words eat, out, bye, hi, no, please, yes (yea), bathroom (potty), or an acceptable approximation combined with gestures, plus any additional words.

Procedure:

1) The instructor may physically manipulate the child's tongue and/or lips (if possible) with the aid of a tongue depressor or mirror, while vocalizing the model sound or sounds.

2) The child is able to imitate silently the correct articulatory posture, after the auditory command "Do this," for the desired sound or sounds, following the instructor's model.

3) Emphasized vocal approximations of the isolated sound or sounds are attempted by the child following the instructor's model and command.

4) The child is reinforced appropriately for verbal successive approximations of the instructor's model.

5) When the child's productions of the desired isolated sound or sounds are articulated intelligibly, the complete word is produced by the child, following the instructor's model.

6) Appropriate physical gestures may accompany the teaching situations to aid both in learning by the child and comprehensibility by the listener.

NOTE:

A token economy system may be devised for select children. As shaping of the speech attempts progresses, the distribution of tokens will enable the learning situations to continue without pausing for the delivery of edible reinforcers. The chips may be exchanged for a reward at an appropriate time.

PROGRAM II

Open class examples:

Clothing - shirt, pants, shoes, socks, dress, etc.

Foods - milk, toast, cookies, soup, apple, hot dog, etc.

Toys - bike, ball, blocks, wagon, etc.

Furniture - bed, chair, table, chest, TV, lamp, etc.

Pivot class examples:

Moun modifiers - the, more, big, light, etc.

Possessives - my, me, your, hers, etc.

Locators - there, here, etc.

Demonstrators - this, that, these, etc.

Identifiers - it, his, theirs, etc.

Simple verbs - eat, drink, wash, run, sleep, play, etc.

These word classes, generally listing the Receptive Vocabulary terms, may act as starting points for Program II. Teaching should possibly begin with the sounds or words the child can already produce. For some children vowel productions may be the most facilitative, while for others bilabial sounds and/or words. As the attempts approach the acceptable level, two-word (or two-sound) combinations should be required and reinforced. Modifications may be necessitated throughout the Program. The instruction can originate in the classroom setting with the use of prompts, objects, and pictures, but verbal production requirements should be carried over to the situational circumstances.

PROGRAM II

Developmental Step

Reinforcers:

Tangibles - M & M's, ice cream, cereal, juice, tokens, social reinforcers.
Verbal praise - "Good boy (girl), (name of child)".

Materials:

Tongue depressors, mirror, tokens, concrete objects where appropriate, pictures of objects, selected words to be taught.

Place:

Unit classroom.

Task:

To teach the child to produce meaningful speech by use of pivot and open class word examples, forming a two (or more) word combination.

Procedure:

The sound (sounds) and corresponding open class word most easily produced by the child should be selected initially.

1). The child is able to vocalize the chosen sound following the instructor's model and cue, "Say_____". (ex. shoe, Say, sh).

2). The child is able to vocalize the next sound following the instructor's model and cue, "Say_____". (ex. shoe, Say oo).

3). The instructor produces the complete word and requests the child to do likewise, "Say_____". (ex. shoe).

4). An appropriate pivot word is selected and the preceding steps are repeated. (ex. my).

5). The instructor models the pivot-open words (my shoe) and requests the child to produce the two utterances, reinforcing him appropriately.

6). The procedure is continued for all of the pivot and open words selected.

NOTE:

Sometimes it might be helpful to initially retain the pivot word and vary the open class (my shoe, my pants, etc). This may reduce learning confusion. Further pivot-open word expansion may be begun as the child masters the productions. Higher expectation levels can also be set in the form of increased word combinations and greater intelligibility.

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SENSORI MOTOR TRAINING MATERIALS

The following list of materials is offered as a guide in the selection and acquisition of training materials.* There are a great many different kinds of sensori motor training materials available that may be utilized while still achieving the intended results. Although nearly all materials are commercially available, most can be made at a small portion of the commercial cost. Because many of the same items have different commercial names, diagrams are provided to reduce the possibility of ordering errors.

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*Many of the items and materials were constructed by Lavern V. Tibbitts, 459 Allen Avenue, Muskegon, Michigan 49442 under the auspices of the Department of Vocational Rehabilitation.

SENSORI MOTOR TRAINING MATERIALS

1. Cylinder Sets

   - Developemnt of eye-hand coordination
   - Teaching size and form discrimination
     (Available through Dick Blick Co., P.O. Box 1267,
     Galesburg, IL 61401)

2. Geometric Form Boards

   - Development of eye-hand coordination
   - Teaching form and color perception.
     (Custom-made locally)

3. Geometric Form Carousel

   - Development of manual dexterity, color and
   - Form perception and matching ability
   - Also counting and stacking
     (Dick Blick Co.)

4. Wooden Washer-Dowel Board

   - Development of eye-hand coordination
   - Teaching color discrimination
     (Custom-made locally)

5. Large Form Board

   - Development of basic eye-hand coordination
   - Teaching form perception
     (Custom-made locally)

6. Giant Rack-A-Stack

   - Development of fine motor skills
   - Teaching color and size discrimination
     (Ideal Toys - Fisher-Price - Dick Blick Co.)

7. Standing Mirror

   - To improve or create the image of self
   - Aids in the identification of body parts and articles
     of clothing

8. Combination Water and Sand Table

   - Used as a reinforcing activity between training sessions
   - Contributes to the reinforcing quality of the classroom

Additional Materials Used:

- A. Peabody Picture Cards
- B. Eating utensils (plates, glasses, cups, silverware)
- C. Articles of clothing.
- D. Color photographs of familiar objects - 35 receptive vocabulary objects: bus, window, bathroom, ball, etc.
- E. Developmental Learning Materials (DLM) - a wide variety of materials to improve the child's cognitive skills

9. Dressing Vests

Canvas vests which button, zip, buckle, snap and lace. The principle of backward chaining is employed to teach the above self-dressing and undressing skills.
(Custom-made locally or available through Dick Block Co.).

10. The Furnishings and Philosophy of the Classroom.

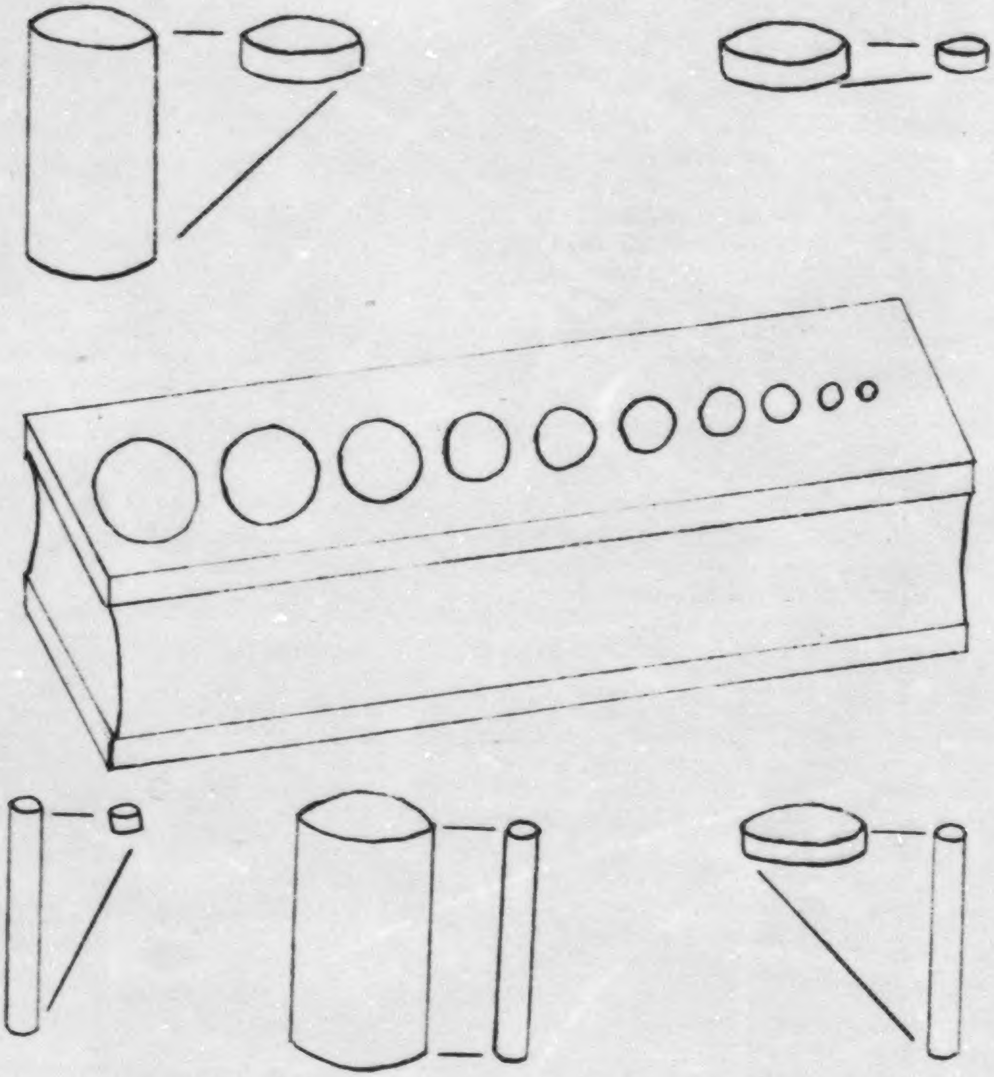
One room in the living unit was selected to create a warm home-like atmosphere and at the same time to provide an area for program instruction. The furnishings, carpet, drapes, sofa, etc., and the small table and chairs and instructional materials promote the highly reinforcing work-play philosophy.

The carpeting has been very successful in reducing noise levels by sound absorption as well as contributing to the home-like atmosphere.

The refrigerator has proven indispensable in the storing of perishable reinforcers (ice cream, juice,vegetables, etc.).

The simulated living room corner has been useful for periods of relaxation between training sessions as well as for modeling appropriate social behavior.

The classroom enclosure allows maximum control and provides training materials within arm's length.



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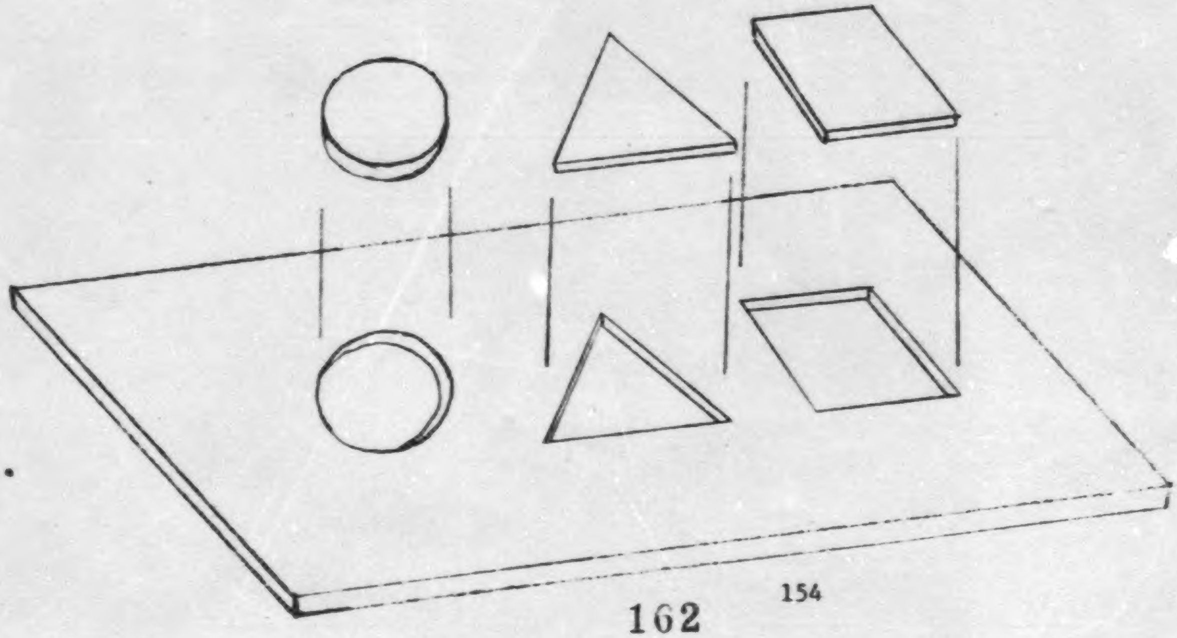

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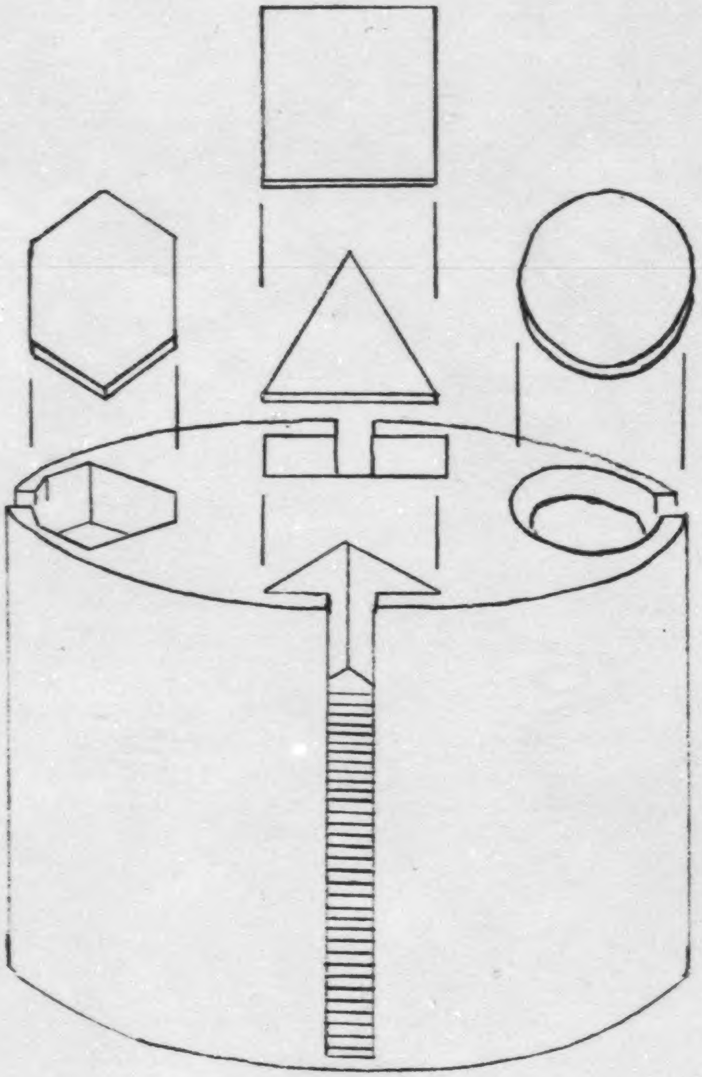

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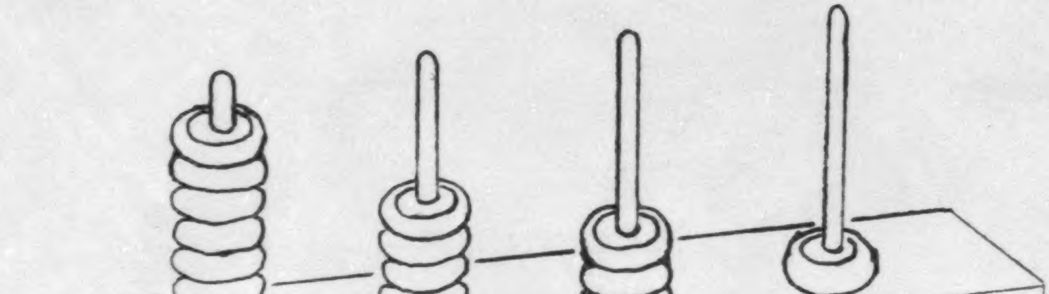

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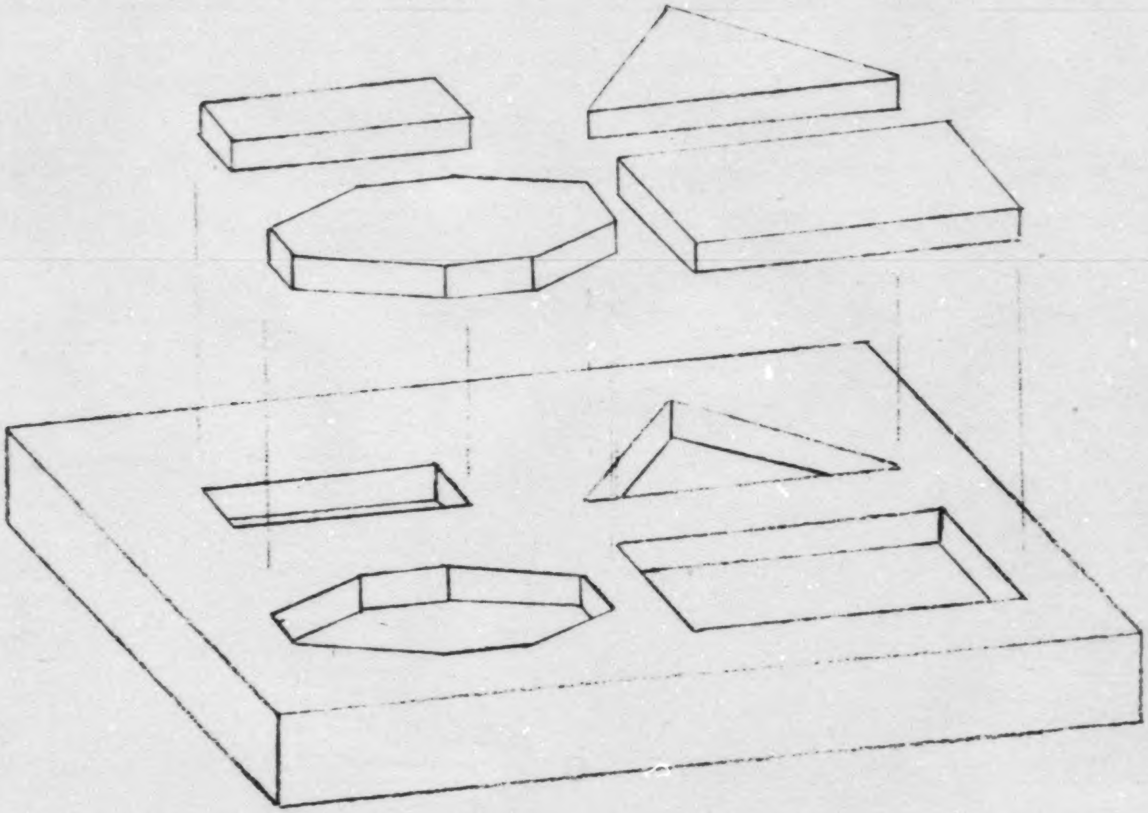

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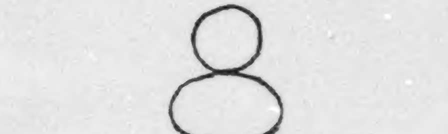

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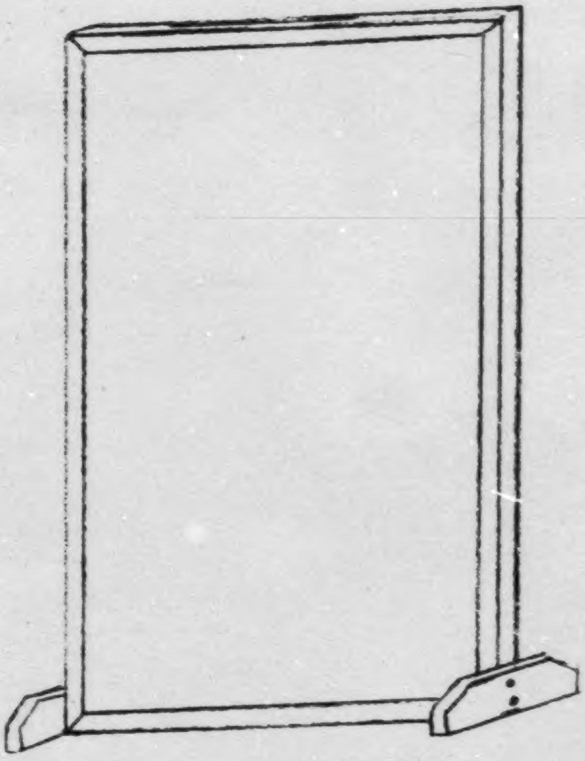

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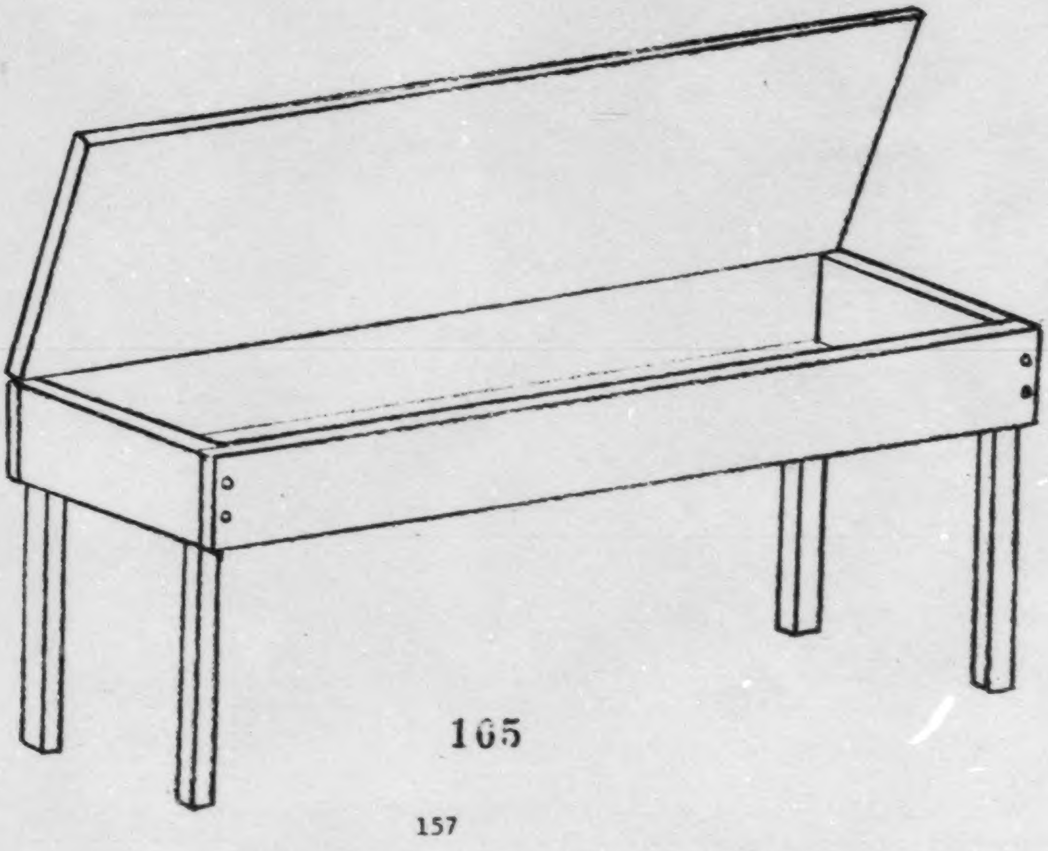

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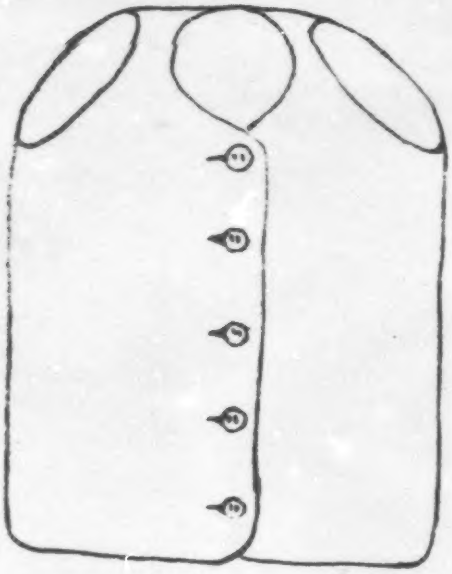

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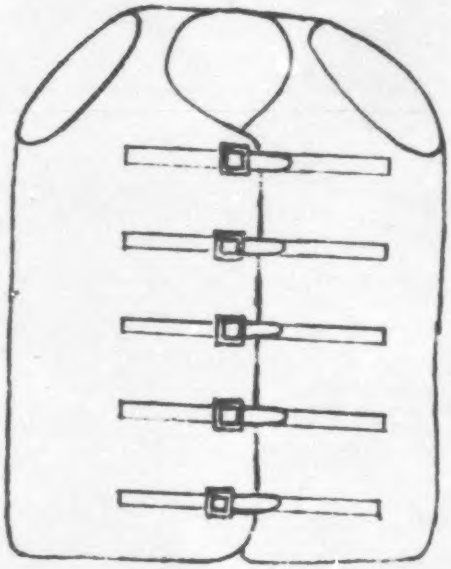

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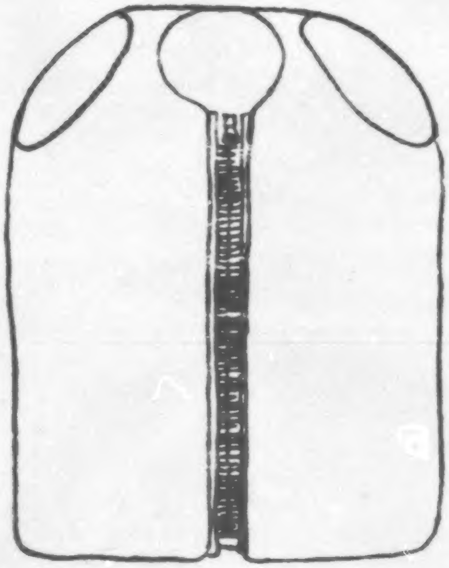

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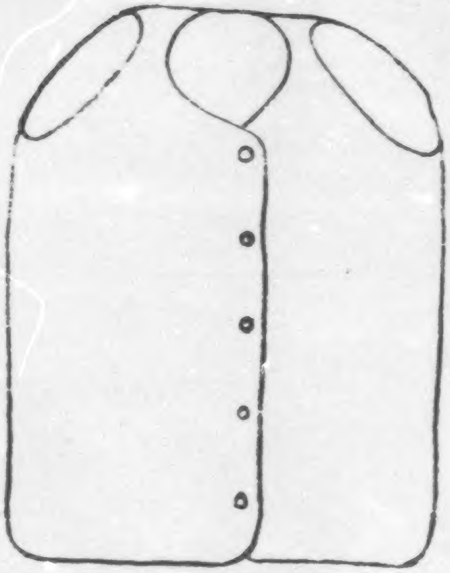

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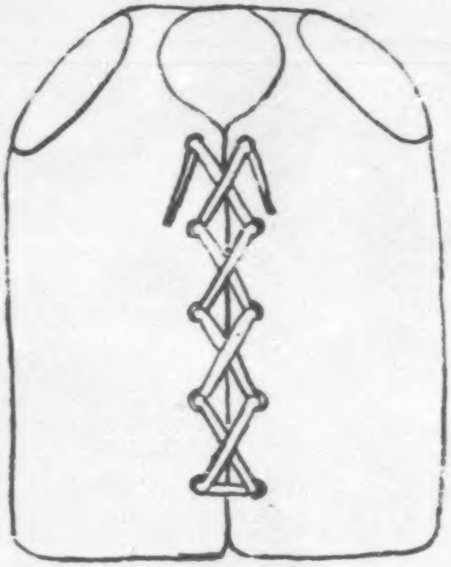
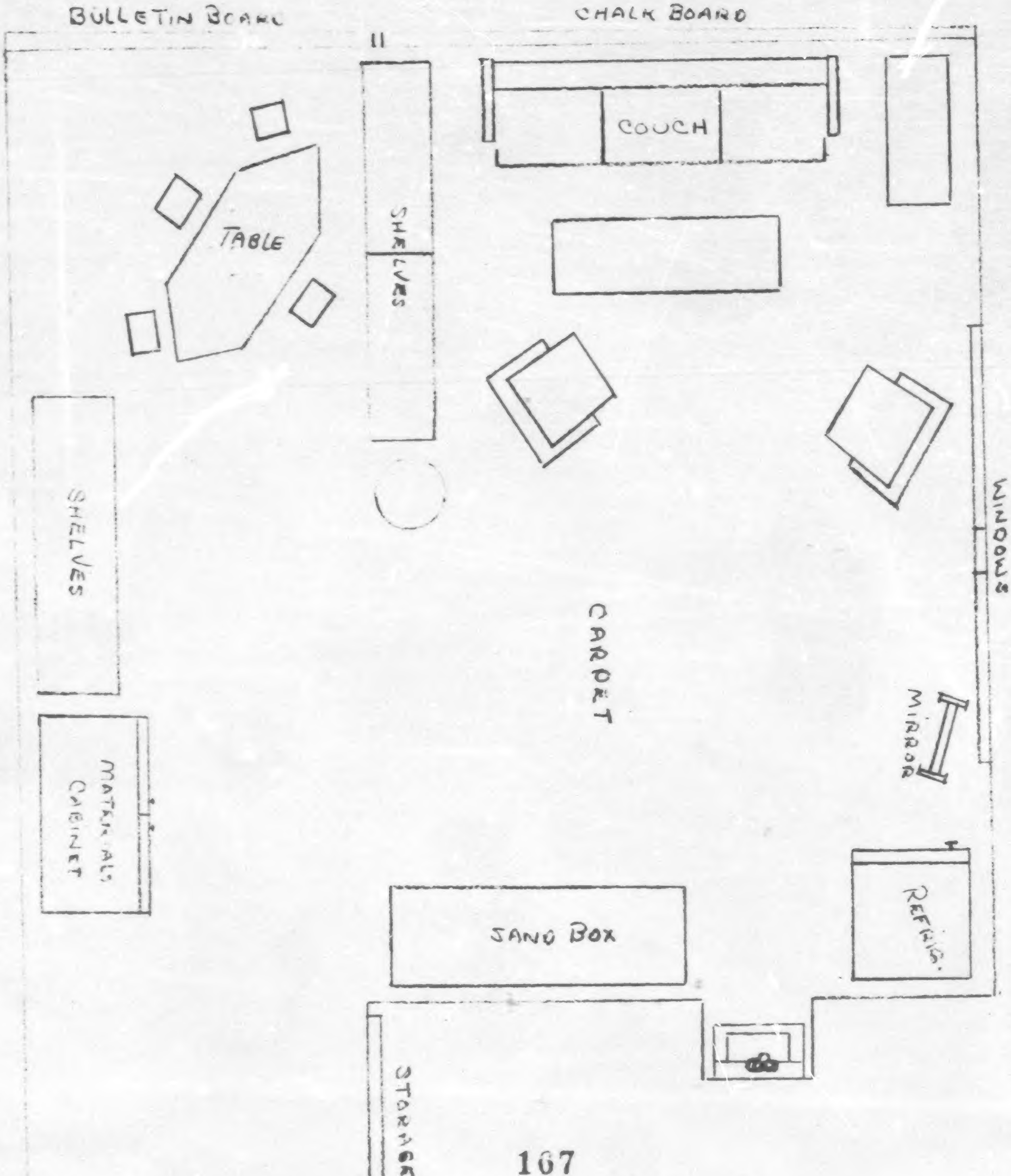


1. BUTTONING
2. BUCKLING
3. ZIPPING
4. SNAPPING
5. LACING

10.


BULLETIN BOARD
CHALK BOARD
COUCH
TABLE
SHELVES
SHELVES
CARPET
WINDOWS
MIRROR
MATERIALS CABINET
SAND BOX
REFRIG.
STORAGE

REFERENCE SOURCES

The following are references that may be of use in teaching and training the retarded population. They were compiled to assist in locating sources, answering questions, and giving ideas for presenting various teaching areas. Subjects pertaining to cognitive functioning, reinforcement principles, imitation, articulation, syntax, and other topics dealing with language are included.

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